COUNTY BOROUGH OF BRIGHTON.

Annual Report

ON THE

HEALTH,

Sanitary Condition, &c.,

OF THE

COUNTY BOROUGH OF BRIGHTON,

FOR THE YEAR 1906.

BY

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Medical Officer of Health.

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1907.

COUNTY BOROUGH OF BRIGHTON.

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HENRY NEWMAN, Junior Clerk and Messenger.

Matron of Sanatorium: MISS RATCLIFF.

House Physician & Deputy to Medical Officer of Health.

T. BARRETT HEGGS, M.D., Aberd., D.P.H., Jan.-April, 1906.
H. C. LECKY, M.A., B.M., Oxon., D.P.H., May-Dec., 1906.

Chief Inspector of Nuisances.

JAMES F. SKINNER (Certif. San. Institute).

Public Analyst: MEREDITH WYNTER BLYTH, B.Sc., F.I.C.

Medical Officer of Health: ARTHUR NEWSHOLME, M.D.

PREFACE.

Town Hall, Brighton,
March 11th, 1907.

To the Sanitary Committee of the Brighton Town Council.

Gentlemen,—

I beg to present herewith my report on the work of the past year. Each year, in addition to the problems always needing to be dealt with, new problems require time and attention. In the present report I have dealt in more than usual detail with—

The administration of the Midwives Act,

The problems of Medical Inspection of Schools,

The administration of the Sanatorium for Consumption.

The Employment of Children, &c.

An outbreak of scarlet fever caused by infected milk has been described in full for permanent record and reference, as it presents features of interest and importance.

I wish to take this opportunity of acknowledging cordially the constant and assiduous help which I have received from the members of the sanitary staff, from the school nurse, and from the matron and nurses of the Sanatorium ; as well as the time and sympathetic attention which your Committee has devoted to the important work of my department.

I am, Gentlemen,
Yours obediently,

Arthur Newsholme, M.D.

Medical Officer of Health.

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VITAL STATISTICS.

POPULATION.

The estimated population of the County Borough at the middle of 1906 was 128,095.

The Borough Surveyor reports that 305 new dwelling-houses were passed by the Town Council during 1906, as compared with 407 in 1905 and 538 in 1904. These were situate in the following wards: Preston 136, Preston Park 85, Lewes Road 21, Kemp Town 21, Queen's Park 23, Montpelier Ward 6, St. John's 6, St. Peter's 4, Pier 2, Hanover 1.

BIRTHS.

The total number of births registered in the Borough in the 52 weeks ending December 29th, 1906, was 2,853, 1,449 of boys and 1,404 of girls. This is equivalent to a birth-rate of 22·3 per 1,000 inhabitants. The average birth-rate of the seventy-six great English towns was 27·9, that of 142 smaller towns averaging 26·5 per 1,000.

Of the births, 171 were of illegitimate children, forming 6 per cent of the total births. 59 births occurred in the Workhouse, of which 46 were of illegitimate children.

DEATHS.

Last year, 1891 deaths from all causes were registered as belonging to Brighton, including 49 in the Borough Asylum at Haywards Heath and 11 in the Shoreham Workhouse, which is equivalent to a death-rate of 14·8 per 1,000. The death-rate in the 76 great towns was 16·0, in England and Wales as a whole 15·4.

A comparison with Brighton in former years is given in Table I., page 39. In Table II., the deaths and the most important causes of death are given for each Ward.

The progress of the Brighton death-rate for a series of years is indicated in the following tabular statement :—

		Death-rate per 1,000 population from all causes.	
Ten years	1851-60	25·0	
	1861-70	25·6	
	1871-80	20·5	(Preston incorporated in 1874)
	1881-90	18·5	
	1891-1900	17·6	
	1901-05	15·3	
	1906	14·7	

The death-rate, although slightly higher than that of 1905, which was 13·5, is very low as compared with earlier years.

DEATHS OF VISITORS.

Of the total 1,887 deaths registered in Brighton during last year, the following were returned as visitors, 87 in private houses, 54 in the County Hospital, 9 in the Children's Hospital, 12 in the Workhouse, 5 in the Home for Incurable Children, 2 in the Convalescent Home, 1 in Hospital for Women, 1 in the Throat and Ear Hospital, 1 in Barclay Home for the Blind, 1 in the Female Convalescent Home. The entry as to deaths of visitors is incomplete, many of the deaths occurring amongst visitors not being marked as such.

During 1906 the deaths in the County Hospital comprised 102 deaths of inhabitants of Brighton, 34 of persons from rural districts of Sussex, &c., 12 from Hove, 4 from London, and 4 visitors to Brighton who were admitted to Sussex County Hospital from Brighton addresses.

Of the 42 patients dying in the Children's Hospital during 1906, 3 came from Hove, 4 from Portslade, 1 from Lindfield, and 1 from address unknown.

The nett death rate given in Table 1, page 39, is 14·5 per 1,000. This allows for the 60 deaths of Brightonians in public institutions outside the borough, and excludes the 86 deaths of visitors occurring in the public institutions of Brighton.

The Registrar General in his returns for Brighton, which are tabulated on a uniform basis in order to make them comparable with those for other towns, includes the deaths of the outsiders given above, but excludes only deaths in the County Hospital, the Female Convalescent Home, the Home for Incurables, and the Isolation Hospital. Thus no allowance is made for the 27 deaths of non-inhabitants occurring in the Children's Hospital, Workhouse, Women's Hospital, Throat Hospital, Barclay Home, and French Convalescent Home. The nett death-rate on this basis in 1906 was 14·7 per 1,000.

DEATHS IN PUBLIC INSTITUTIONS.

Of the total deaths, 268 occurred in the Workhouse, 156 in the Sussex County Hospital, 42 in the Children's Hospital, 12 in the Sanatorium, 10 in the Hospital for Women, 5 in the Home for Incurables, 1 in the Throat and Ear Hospital, 2 in the French Convalescent Home, 1 in the Female Convalescent Home, 1 in the Barracks, and 1 in the Barclay Home.

INFANTILE MORTALITY.

The deaths of infants under one year were 111 per 1,000 births as compared with an average of 142 in the ten years 1896-1905. The returns under this heading are becoming more satisfactory. We have no right, however, to be contented until the infantile mortality is less than one-tenth of the births.

Of the total 317 deaths under one year, 41 were of illegitimate babies. Stated in terms of births this implies that the infantile mortality among illegitimate babies is 240 as compared with 102 per 1,000 among babies born in wedlock. The chief causes of infant mortality are given in Table III., page 41.

CHIEF CAUSES OF DEATH.

The chief causes of death, and the number of deaths from each disease or group of diseases, are tabulated in Table IV., page 42. This table gives the relative incidence of different diseases, and the incidence of each disease in the two sexes and at different ages. In one case the cause of death was not medically certified.

NOTIFICATION OF INFECTIOUS DISEASES.

On March 1st, 1891, the Infectious Diseases (Notification) Act was adopted in Brighton.

The returns furnished to me under this Act shew that the number of *cases* of infectious diseases notified during 1906 was:—diphtheria, 230; membranous croup, 1; scarlet fever, 225; enteric fever, 22; erysipelas, 100; puerperal fever, 9; small pox, 0.

The above is the number of supposed *cases* of infectious disease. Further observation in a certain proportion of these led to a revision of the diagnosis.

Two cases of diphtheria, 3 of scarlet fever, 1 of puerperal septicæmia, and 2 of erysipelas were notified severally by two doctors.

The cases notified are classified according to age and ward in Table V., page 47.

The total number of notifications (including 3 notified by the medical officer of health) was 595, as compared with 557 in 1905. Of the total, 151 occurred in public medical practice—the amount payable for the certificates being £7 11s.; while 441 occurred in private medical practice—the amount payable being £55 2s. 6d. The total amount paid for notification certificates was £62 13s. 6d.

SMALL POX.

No cases have been notified during the last two years.

CHICKEN POX.

From the schools 37 cases of this disease were notified during the year. No deaths occurred, and inquiries into the cases showed that in no instance was there any suspicion of small pox.

SCARLET FEVER.

The incidence of scarlet fever since notification came into operation is shewn in the following table:—

	Per 100,000 of population.		Number of deaths per 100 cases notified.
	Number of cases	Number of deaths.	
1892	320	7	2·1
1893	408	9	2·2
1894	185	3	1·6
1895	164	4	2·5
1896	206	5	2·3
1897	270	10	3·7
1898	305	6	2·0
1899	667	8	1·2
1900	474	10	2·1
1901	142	1	0·6
1902	117	2·4	2·1
1903	155	0	0
1904	136	1·6	1·1
1905	165	0·8	0·5
1906	172	1·6	0·9

Two deaths from scarlet fever occurred in 1906, as compared with one in 1905. One of the deaths was of a patient who had scarlet fever in London. Of the total 225 notified cases, 163, or 72·4 per cent., were treated in the Sanatorium, as compared with 80·6 per cent. in 1905. Of the total cases, one case occurred in 139 private houses; in each of 22 houses, two cases occurred; in each of 8 houses, three cases occurred; in 1 house, four cases; and in 1 house, six cases. At the Workhouse, eight cases occurred.

Of the total cases of scarlet fever 33 were due to a special milk epidemic, of which an account is appended to the present report (page 48). In the same epidemic 203 cases of sore throat without rash occurred.

No "return cases" of scarlet fever occurred during 1906 after the discharge of patients from the Sanatorium. Two cases treated at home illustrate the phenomenon of recrudescent or "return" infection in home treatment.

Case 1. was a boy B.C. aged 11 who began with typical scarlet fever on October 15th in connection with a milk outbreak of scarlet fever. A rash was seen on his chest, following severe sore throat and adenitis. No desquamation followed. He lived with three adults and a sister C.C. aged 3 years. The latter was with him during the first week of his illness and was then separated for 3 weeks. From November 12th B.C. and C.C. mixed freely together. On December 6th C.C. fell ill with scarlet fever, without so far as can be ascertained having been exposed to any other infection than that from B.C. The supposition that C.C. was infected by B.C. was confirmed by the fact that a cousin, D.C., visited B.C. on November 15th, and on the 18th fell ill with scarlet fever. It should be added that no disinfection had been done before the onset of these secondary cases.

Case 2., D.E. fell ill with scarlet fever about the middle of July. His initial symptoms were sore throat and vomiting followed by a rash, and subsequent desquamation of hands and feet. Early in September his brother, E.E., had a rash but no vomiting. and his skin subsequently peeled. Two other children in the same house have remained well. The cases were not recognised as scarlet fever. At the middle of September D.E. returned to school, attending until October 4th. From the 4th to the 20th October he was not attending school. On the 21st he returned, and on the 25th 26th and 28th October, three cases of scarlet fever occurred in the same class at school. On the 26th D.E. was stopped from attending school; returning on November 19th. On the 20th a boy in the same class fell ill with scarlet fever. D.E. was again taken from school and no further cases of scarlet fever occurred. Although the evidence is only circumstantial, the facts point to this being one of the instances of chronic infectivity, to which I have previously drawn attention.

The following further case may be cited as illustrating the fact that one attack of scarlet fever may occur immediately after recovering from the first. W.N., aged 3 fell ill with scarlet fever on the 15th March, the first symptom being vomiting. He desquamated and followed the ordinary course of an attack of scarlet fever. At the end of 44 days he left the hospital and next day vomited again, this being followed by a typical second attack of scarlet fever.

The above occurrence like the occurrence of relapses during an attack of scarlet fever, although exceptional, is a well-recognised event, and shows that the protection by one attack of scarlet fever is often not so absolute as is supposed.

DIPHTHERIA.

The incidence of diphtheria in Brighton, since notification came into operation, is shewn in the following table:—

	Number of cases per 100,000 of population.	Number of deaths per 100,000 of population.	Case-mortality. Number of deaths per 100 cases notified.
1892	93	20	20·2
1893	157	30	18·4
1894	109	22	21·1
1895	172	16	8·8
1896	142	17	10·9
1897	154	10	6·5
1898	313	18	5·8
1899	547	51	9·2
1900	554	58	10·2
1901	567	52	9·1
1902	349	29	8·3
1903	326	26	7·8
1904	213	13	6·0
1905	174	4	2·2
1906	179	10	5·6

"*Return Case.*"—In one instance during last year, it is probable that infection persisted for several months after leaving the Sanatorium. S.S. left the Sanatorium on April 30th, 38 days after the onset of his illness. He had no nasal discharge then or afterwards. Three negative swabs had been obtained from his throat before he was sent home. On May 13th, his mother had a sore throat. On June 17th S.S. is stated to have had "a cold" with a curious voice. On the 27th diphtheria-bacilli were found in his throat. On the 20th he exchanged cigarette coupons with B.R. a boy belonging to another family in the same street. On the 23rd B.R. fell ill with diphtheria. This implies a duration of infection of at least 90 days.

In another instance similar "return" infection occurred in connection with a home-treated case. W. W., aged 12, was released on 4th April from home isolation, about 16 days after the onset of a mild attack of diphtheria. On May 13th she returned to school, continuing attendance until May 31st. The school during the previous month had had no cases of diphtheria. In the same department as W. W., cases of diphtheria fell ill on May 20th, May 23rd and June 4th. From the 31st May W. W. was excluded from school, a swab taken at the school showing diphtheria-bacilli. Positive swabs continued to be obtained from her throat until August 31st. On September 28th a negative swab was obtained, and she was allowed to return to school.

Possible very protracted infection.—The following case has figured in a previous annual report, and its history can now be continued. B. G. had diphtheria in February, 1901. A fortnight after leaving the Sanatorium she had ear discharge lasting only a few days. This recurred on April 17th, 1904, and the discharge was now found to contain diphtheria-bacilli. On April 23rd, of the same year, a sister, E. G., fell ill with diphtheria and two others in the same family, about the same time. At the beginning of March, 1906, B. G. had headache and vomiting, again followed by ear discharge. On the 27th, diphtheria-bacilli were found. On the 20th, her sister, C. G., fell ill with diphtheria. No infection outside the domestic circle could be discovered.

Multiple Cases in Houses.—Of the total 230 cases notified, there was one case each in 198 private houses, two cases each in nine houses, three cases each in two houses, four cases each in two houses.

WHOOPING COUGH.

As shewn in the following table, the death-rate from whooping cough was higher than in 1904, although below the average.

The 167 cases notified, chiefly from schools, during 1906, occurred in 98 houses. Of these cases, 21 occurred under 1 year of age, 13 aged 1-2, 18 aged 2-3, 16 aged 3-4, 34 aged 4-5, 31 aged 5-6, 20 aged 6·7, 11 aged 7-8, and 3 aged 8-9.

Annual Death-rate per 100,000 inhabitants from Measles and Whooping Cough.

Year.	Measles.	Whooping Cough.	Year.	Measles.	Whooping Cough.
1882	143	115	1895	20	34
1883	51	57	1896	46	27
1884	7	33	1897	14	21
1885	31	41	1898	67	18
1886	10	60	1899	1	16
1887	64	28	1900	43	28
1888	3	43	1901	10	21
1889	40	24	1902	24	23
1890	53	89	1903	4	12
1891	24	18	1904	71	28
1892	100	19	1905	2	9
1893	12	47	1906	22	17
1894	30	12			

MEASLES.

The death-rate from this disease, compared with past years, is shewn in the above table.

The 975 cases notified, chiefly from schools, during 1906 occurred in 596 houses. Of these cases, 39 occurred under 1 year of age, 62 aged 1-2, 84 aged 2-3, 131 aged 3-4, 160 aged 4·5, 187 aged 5-6, 146 aged 6·7, 71 aged 7-8, 42 aged 8-9, 16 aged 9-10, 11 aged 10-11, and 26 aged over 11. The question of school closure for measles is dealt with on p. 29.

ENTERIC OR TYPHOID FEVER.

The incidence of enteric fever, since notification came into operation, is shewn in the following table :—

	Number of notified cases per 100,000 of population.	Number of deaths per 100,000 of population.	Case-mortality Number of deaths per 100 cases notified.
1892	54	7	12·7
1893	65	13	19·5
1894	69	9	13·0
1895	72	12	16·6
1896	101	12	11·2
1897	94	17	18·1
1898	105	15	14·3
1899	148	20	13·7
1900	67	10	14·4
1901	37	5	13·0
1902	52	11	21·5
1903	31	3	10·3
1904	27	5·5	20·6
1905	27	1·6	5·9
1906	17	2·3	13·6

Of the 22 total cases which were notified, three subsequently proved not to be enteric fever. Of the remaining cases, four were imported, *i.e.*, due to infection derived while the patient was living away from Brighton. One case was apparently due to personal infection acquired from a convalescent typhoid patient who had come from London. In two cases, no personal inquiries as to shell-fish, &c., could be made, owing to the patients dying, and none of the ordinary sources of infection could be traced. Four cases followed the eating or handling of mussels, and four the eating of oysters within the limits of the incubation period of this disease. There is no doubt that the mussels, and there were strong reasons for believing that the oysters, were contaminated with sewage. In one of the mussel cases, as in many others in former years, the infection may have been derived directly from the mussels, although they had been cooked; or the patient who put them on the fire subsequently took them off, picked them out of the shells with his hands, which had not been washed since he just before had handled the mussels in their shells. Four cases of enteric fever occurred in one family. The first case was that of a boy who was very fond of fishing, using mussels as bait. He had also eaten some mussels, but the date was uncertain. One case could not be traced to its source, though the patient had been visiting out of Brighton within 22 days of the onset of his illness.

During last year I only received one intimation, from a medical officer of health of a midland town, that a patient who had been visiting Brighton had fallen ill, on returning, with enteric fever. This patient had been indulging in oysters while in Brighton, but the exact source of the oysters could not be ascertained.

The previous record is most satisfactory, when compared with that of former years, as will be seen in the following figure.

FIGURE I.

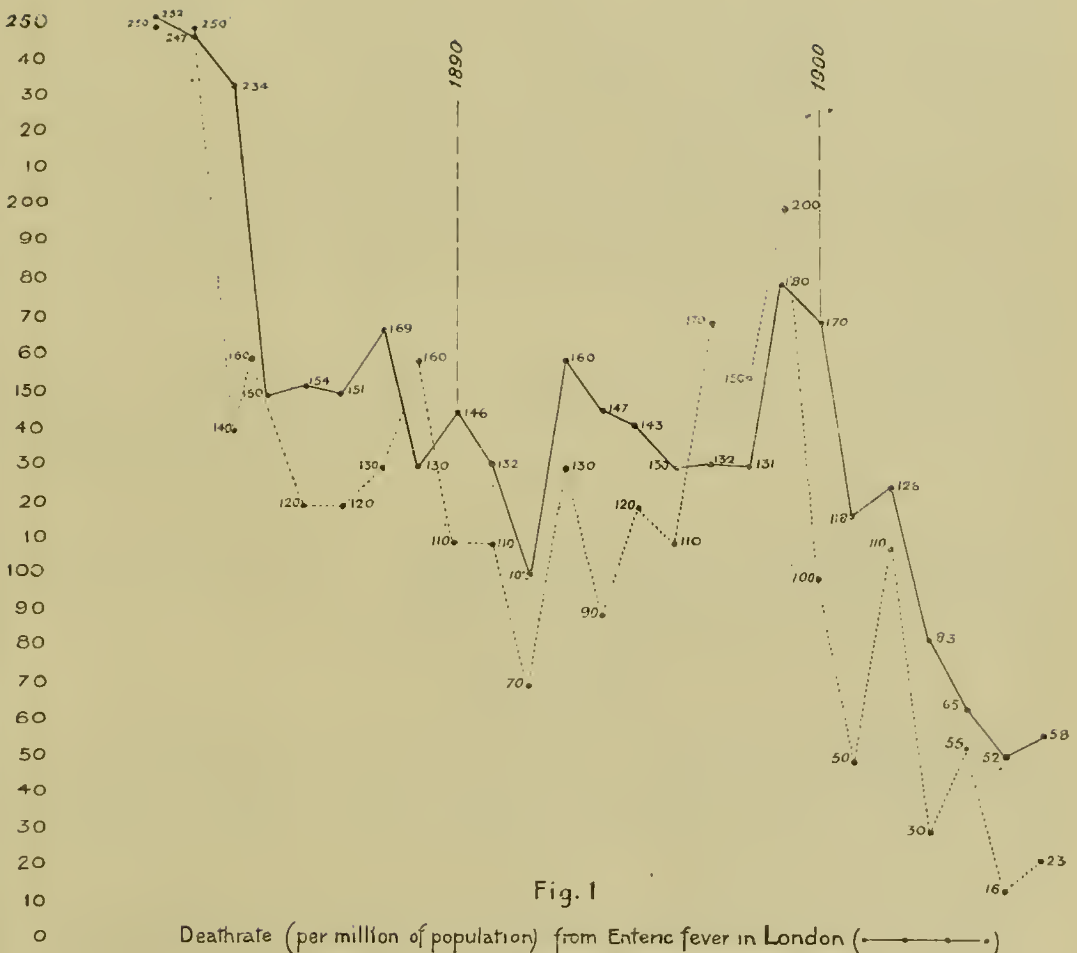

Fig. 1

Deathrate (per million of population) from Enteric fever in London (•——•——•) and Brighton (• • • •) from 1882 to 1906 inclusive.

Comparison of annual death-rate from Enteric Fever in Brighton and in London for a series of years.

In reading this diagram it must be noted that it was not until August 16th, 1899, that we issued the posters, which, since then, have been continuously displayed on the beach, &c. Although I had frequently, from 1894 onwards, urged the importance of polluted shell-fish as a cause of enteric fever, and the Town Council had made repeated, but unsuccessful, efforts to secure enactments and bye-laws enabling them to cope with the evils which are detailed in my previous reports, the issuing of the above posters and the publicity accompanying this action, were the first effective blow which was dealt against the evil. On page 21, of my Annual Report for 1899, it was shewn how sharply the amount of local enteric fever declined after the end of August, 1899. The fact is that about this time the general public became alive to the dangers involved in the consumption of shell-fish under existing conditions. The result is shewn in the steady downward curve of the death-rate from enteric fever shewn in the preceding diagram. In London a similar course has been followed: and there can be no hesitation in ascribing the improvement largely—I believe, mainly—to the fact that the public have learnt to regard shell-fish as a very suspicious source of food, and have either abstained from them, or been extremely careful in their choice of shell-fish from sources known not to be contaminated.

Brighton has benefited more than London by the change. This is probably owing to the fact of our more active propagandism in this matter, and to the fact that a small community is more easily influenced than a large community.

There are the strongest reasons in the preceding statement for maintaining the warning posters against shell-fish which are still exhibited, notwithstanding the efforts to secure their removal.

DIARRHŒA.

During 1906, 68 deaths were returned under headings which are officially classed as diarrhœa. Of these deaths 49 occurred in infants under 1 year of age, and nine in children aged 1-2 years. Under the heading enteritis 26 deaths were registered of which 18 occurred under 1 year of age, and 1 at ages 1-2.

In the following Table the deaths from diarrhœa are given in terms of the births, which is the nearest approach to an accurate method of statement, when the number of deaths from diarrhœa among children under one year of age is not separately given.

	Deaths per 1,000 Births.		Deaths per 1,000 Births.
1891	15·5	1899	62·5
1892	23·0	1900	32·2
1893	29·2	1901	28·9
1894	17·0	1902	16·3
1895	33·7	1903	16·4
1896	24·1	1904	18·3
1897	28·8	1905	15·2
1898	42·7	1906	23·8

In the following Table the diarrhœal death-rate is stated per 1,000 of total population, and is compared with that of London, &c.

Death-rate from Diarrhœa per 1,000 of population.	1902	1903	1904	1905	1906
Brighton	·39	·40	·43	·37	·54
London	·54	·64	1·04	·73	·95
76 great towns	·54	·71	1·20	·83	1·16

The climatic conditions of the summer of 1906 were more favourable than those of 1905 to a higher diarrhœal rate. I consider it satisfactory in view of this fact that as shewn in the above Table our diarrhœal death-rate remained not much more than half that of London and less than half that of the 76 great towns in the aggregate. It would appear that the active annual propaganda on the precautions against diarrhœa which we have been pursuing has had some measure of success.

Great importance attaches to the methods of infantile feeding as bearing on the prevention of diarrhœa. For the last four years it has been ascertained in house-to-house visiting how the babies of the working-classes are fed; and the first half of the following table gives this information concerning 1,684 babies.

	A.—Method of feeding of 1684 infants found in house-to-house inspection of houses of the working classes in the 4 years, 1903-06.					B.—Infants who died from Epidemic Diarrhœa in the 4 years 1903-06.				
	Age of Infants in Months.					Age of Infants in Months.				
	0-3	3-6	6-9	9-12	Total.	0-3	3-6	6-9	9-12	Total.
I.—Suckled only	259	323	252	119	1053	5	3	1	—	9
Ditto and farinaceous food	16	36	48	96	196	1	2	1	2	6
Ditto and cow's milk	5	8	10	4	27	1	1	—	1	3
Ditto and condensed milk	3	7	7	1	18	1	—	1	—	2
II.—Cow's milk only ...	19	44	41	28	132	15	27	7	5	54
Ditto and farinaceous food	6	33	42	39	120	1	1	6	11	19
III.—Condensed milk only	11	23	17	14	65	5	23	15	7	51
Ditto and farinaceous food	2	6	15	13	36	—	3	1	3	7
IV.—Farinaceous food, including patent food only mentioned, or same food as parents	4	3	3	21	31	1	1	—	—	2
V.—Unknown	—	—	1	5	6	5	5	2	5	17
Total	425	483	436	340	1684	36	66	34	34	170

Classifying all babies under one year of age together, it is noteworthy that 63 per cent. are suckled only, while an additional 14 per cent. are partially suckled. Taking the first six months of life separately, 75 per cent. are suckled only, and 9 per cent. more are partially suckled. It is evident that three out of every four, and probably four out of every five, parents of the working-classes carry out their maternal duties to their babies, and in a large proportion of the remainder, the failure to do so is due to physical inability. There remains a residuum of cases in which the non-suckling is due to bad advice given by nurses and others ; and it is most important that this bad advice should be counteracted in every possible way.

When the figures as to suckling and the different methods of artificial feeding in the sample population enumerated above, are compared with the figures as to deaths from diarrhœa among babies fed in different ways, the results are most significant. Thus while the total proportion of babies suckled only was 75 per cent. under six months and 63 per cent. at all ages under one, the corresponding percentage of total deaths from diarrhœa among such babies was only 4·7 and 5·3 per cent. respectively. If these partially and entirely breast-fed are grouped together, the deaths from diarrhœa among such babies under six months was 13·7 and 11·8 per cent.

In the sample population, 7·8 per cent. of those under one year were fed on cow's milk only, and 6·9 per cent. of those under six months of age ; while the proportion of the total deaths from diarrhœa among babies thus fed was 31·7 per cent. and 41·1 per cent. respectively. Of the total babies under one year 3·9 per cent., and 3·7 of those under six months were fed on condensed milk only ; while of the total deaths from diarrhœa under one year of age 50 per cent., and of the total deaths from diarrhœa under six months of age, 28·4 per cent. were among babies fed on condensed milk only.

It follows from the above figures that so far as our local experience is concerned :—

(1.) *Breast-fed babies* under one year of age have only one-twelfth, and breast-fed babies under six months have only one-sixteenth part of the share of deaths from diarrhœa, which would fall to their share were the deaths from diarrhœa evenly distributed among all the babies.

(2.) *Babies fed on cow's milk :* these babies at all ages under one had 4½ times, and at ages under six months had six times as many deaths from diarrhœa as they ought to have had on the same supposition.

(3.) *Babies fed on condensed milk :* these babies at all ages under one, had 13 times, and at ages under six months, had eight times as many deaths from diarrhœa as they ought to have had on the same supposition.

It may be inferred further from the above facts that judging by our local experience, it is twice as dangerous to feed babies on condensed milk as on fresh cow's milk ; that it is 54 times as dangerous to feed a baby on cow's milk ; and 156 times as dangerous to feed a baby on condensed milk as on mother's milk.

These facts emphasise the dangers of condensed milk or even of fresh cow's milk for babies; and incidentally support the view urged in the 10,000 circulars distributed each summer in Brighton, that babies should not be weaned during the hot summer months.

PUERPERAL FEVER, &c.

During 1906, two deaths from puerperal fever were registered, and five from other diseases of child-birth and pregnancy. Nine cases of puerperal fever were notified. Of these six occurred in the practice of midwives, and the circumstances revealed in some of these were most unsatisfactory, and indicate the necessity for active supervision of the work of midwives by a qualified lady inspector.

Thirty-four midwives have, in January, 1907, registered their names as practising in Brighton, as compared with 33 in 1906. Of this number five are at work in connection with the Lying-in-Hospital. The number of confinements attended from this institution was 749 in 1906, or 26·3 per cent. of the total births in the town.

Each midwife is under an obligation to send for medical aid when required, and to send to the Medical Officer of Health an immediate intimation of the circumstances which have necessitated this action. During 1906, the midwives of the Lying-in-Institution have sent for the house surgeon in the following cases:—

Threatened abortion, 1; abortion or miscarriage, 4; premature birth, 2; delay in 2nd stage of labour, 15; hœmorrhage before birth, 4; contracted pelvis, &c., 3; abnormal presentations, 9; prolapse of cord, &c., 5; placenta praevia, 1; hœmorrhage after birth, 1; adherent placenta, 1; retained placenta or membranes, 8; ruptured perinaeum, 20; inflamed breast, 2; rise of temperature, 5; abnormal conditions of child, 9; other conditions, 2. Total cases, 92.

We have at present no returns of births from midwives. I think it is extremely advisable that these should be received, and I recommend that I be authorised to arrange for this on a voluntary system, the midwives receiving a small sum, say 2d. for each notification, to cover the cost of postage, &c.

It is probable that the private midwives in this town attend, at least, as many confinements as the midwives of the Lying-in-Institution. From these private midwives I have only, during the past year, received five intimations of sending for medical aid, one each for retained placenta, cross presentation, collapse, premature birth, and "exertion."

The comparison of the two sets of returns is most significant. It is difficult to estimate accurately the avoidable suffering and risk which is implied in the failure of the private midwives to call for medical aid when needed, though this must be very great. There is, of course, the monetary difficulty behind this, and we shall, I anticipate, be obliged eventually to arrange to have a doctor available for such cases, as is already done in some other towns, or to pay the fee of any doctor who is sent for in an emergency. For cases in which puerperal fever is suspected, doctors in practice are extremely averse to being called in and to making the necessary examinations when sent for, in the interest of their other patients. This and several other difficulties will need to be faced, but this will only be practicable when we have secured an efficient system of supervision of the work of midwives, which, I hope, may soon be acquired.

One midwife was suspended during the year until disinfection was done, and one was warned as to not sending an official intimation that she had called in medical aid.

RHEUMATIC FEVER.

During 1906, the number of deaths registered as caused by this disease was five.

SYPHILIS.

During 1906, the deaths of seven male and eleven female infants under one year of age, and of two men and one woman, were returned as due to this cause. The death returns under this head are immensely understated.

ALCOHOLISM.

During 1906, three deaths of men and two of women were returned as caused by alcoholism or delirium tremens. The deaths of 17 men and 16 women were returned as due to cirrhosis of the liver.

Early in 1906, 5,000 illuminated calendars dealing with the Dangers of Alcohol, were distributed, and early in this year (1907) 10,000 similar Calendars were distributed, these being signed by the Mayor. The cost of the Calendars for 1907 was about £27, which was raised by private subscription.

REGISTERED DEATHS FROM CANCER.

Seat of Primary Disease.	Sarcoma.		Carcinoma.		Malignant Disease or Cancer.		Total.	
	M.	F.	M.	F.	M.	F.	M.	F.
Head, Face, Eye, Orbit, Nose, Ear	—	—	—	—	—	1	—	1
Jaws	—	1	—	—	3	—	3	1
Skin	—	—	—	—	—	—	—	—
Axilla and Shoulder	—	—	—	1	1	1	1	2
Mouth, Tongue, Lips	—	—	1	—	6	—	7	—
Neck, Throat, Tonsils, Larynx ...	—	—	—	2	5	—	5	2
Lung, Chest, Mediastinum, Heart	—	2	1	2	—	1	1	5
Œsophagus	—	1	2	—	2	1	4	2
Breast	—	1	—	14	—	7	—	22
Abdomen	—	—	—	3	—	1	—	4
Stomach and Pylorus	—	—	11	4	5	5	16	9
Liver and Gall Bladder	—	—	—	3	3	7	3	10
Peritoneum,Mesentery,Omentem	1	—	—	—	—	—	1	—
Pancreas	—	—	—	1	1	—	1	1
Spleen	—	—	—	—	—	—	—	—
Intestines (excluding Rectum) ..	—	—	7	6	2	8	9	14
Rectum	—	—	3	2	5	6	8	8
Uterus	—	—	—	9	—	3	—	12
Ovaries	—	—	—	—	—	1	—	1
Pelves, Kidney, Bladder, Prostate Urethra, Penis	—	—	—	—	3	1	3	1
Groin, Leg, Foot	—	—	—	—	—	—	—	—
Parts unspecified	1	2	—	3	—	1	1	6
Total	2	7	25	50	36	44	63	101

The total number of deaths registered as due to the various forms of cancer was 164 last year, as compared with 159, 143, 150, 132, 96, 135 and 114 in the seven preceding years. Of the number returned as cancer, 24 occurred in the Workhouse, as compared with 31 in the previous year, 11 in the County Hospital as compared with 15 in 1903, and 1 in the Children's Hospital.

TUBERCULOUS DISEASES.

In the following table the registered death-rate from pulmonary tuberculosis or phthisis and from other tuberculous diseases for a series of years is shewn :—

Mean Annual Death-Rate in Brighton from Phthisis (Consumption) and other Tuberculous Diseases per 100,000 persons in Groups of Years.

	Phthisis.	Other Tuberculous Diseases.
Ten years, 1861-70	295	98
Ten years, 1871-80	247	78
Ten years, 1881-90	193	74
Four years, 1891-94	150	82
Four years, 1895-98	149	63
Four years, 1899-1902	140	44
1903	145	52
1904	136	67
1905	135	54
1906	144	58

Owing to the fact that a larger proportion of the Brighton population than that of England and Wales is at the ages most susceptible to phthisis, a correction factor which is ·9267 is needed. When this is multiplied into the above death-rate, the corrected death-rate is 133.

NOTIFICATION OF TUBERCULOSIS OF THE LUNGS (PHTHISIS).

Voluntary notification of phthisis by medical practitioners was begun in January, 1899, no payments being then made for such notifications. Between that date and September 11th, when the new arrangement came into operation to pay for each case of phthisis notified, in private practice 2s. 6d., and in public practice 1s., 70 cases were notified. The course of notification is indicated in the following Table :—

Year.	No. of New Cases Notified.	No. of Cases Re-notified.	New Cases Notified per 100,000 of Population.	No. of New Cases Treated in the Borough Sanatorium.	No. of Annual Deaths from Tuberculosis in Brighton.
1899	111	—	92	—	215
1900	105	—	85	—	232
1901	153	9	124	—	237
1902	224	52	179	31 (from May)	227
1903	316	82	251	98	248
1904	363	85	286	130	259
1905	308	102	242	129†	241
1906	373	119	291	181*	268

† Not including 6 re-admissions. * Not including 32 re-admissions.

Details as to Notifications.—The preceding table gives comparative statistics for eight years. Re-notifications occurred in 119 instances in 1906, 87 cases being re-notified once, 26 twice, 5 three times, and 1 four times during the year.

During the year 554 notifications of consumption were received, 118 in private practice, 243 in public practice, 139 were reported by relieving officers, 26 by the master of the Workhouse, and 28 by the medical officer of health. The fees paid for notification were £31 0s. 6d. The corresponding facts for other years are set forth below.

	1906	1905	1904	1903	1902	1901	1900	1899
Number of Notifications of Phthisis Private Practice...	118	98	93	78	62	51	48	113
Public Practice ...	243	180	233	218	128	80	56	
By Medical Officer of Health	28	15	8	6	1	—	—	—
By Relieving Officer and Master of Workhouse .	165	135	118	100	75	29	—	—
By relatives	—	10	13	12	16	2	—	—

Stage of Disease at which Notification occurs.—Twelve cases were notified less than a week before death, 15 between 1 and 4 weeks before death, 12 from 1-2 months, 9 from 2-3 months, 7 from 3-4 months, 12 from 4-6 months, and 5 from 6-12 months before death.

Of 373 total cases notified for the first time during 1905, 61·0 per cent. are still alive (February 13th, 1907) as compared with 70·8 per cent. of the cases notified in 1905 on February 13th, 1906, and 50·3 per cent. of the cases notified in 1904 on February 22nd, 1905.

Proportion of the Disease imported.—Of the 185 deaths from phthisis in 1906 the disease was already present in 38 when the patients came to Brighton; 12 of these patients were notified before death.

Of the 373 notified cases, 53 in addition to the above 12 fatal cases were already ill when they came to Brighton. Thus the total known imported cases in the year was 91.

Of the 75 deaths from other tubercular diseases, 11 were definitely ill on arrival in Brighton.

Thus in about 20·5 per cent. of the deaths from consumption and 17·6 per cent. of the notified cases of this disease, the illness was acquired elsewhere than in Brighton.

Of the 373 cases notified during last year, 47 died at home, 14 in the workhouse infirmary (as well as 11 unnotified cases), 1 in the Sussex County Hospital, 6 in the Borough Sanatorium, 2 in Shoreham Workhouse, and 2 while away from Brighton on a visit, 17 have left the town, 55 have gone to unknown addresses, and in 4 cases the wrong address was given when notified.

Notification of Changes of Addresses were received respecting 38 patients, enabling prompt disinfection to be done.

Disinfection.—In 334 notified cases, houses were disinfected after removal of the patients to the Sanatorium or elsewhere. 231 rooms, and in 5 instances, the whole house was sprayed with formalin, 3 rooms were fumigated with sulphur by the tenant. In 39 instances walls of rooms were stripped, cleansed, and the ceilings whitewashed; and in 47 instances this was done for the whole house. In 51 instances the rooms, and in 30 instances, the whole house were thoroughly cleansed and the walls rubbed down by the tenant or owner; in 31 instances the bed ticks, wearing apparel, &c., were washed by the tenants; in 187 instances the bedding and clothing were disinfected by saturated steam under pressure; and in 6 instances the bedding and clothing was burnt.

After deaths from phthisis and other tuberculous diseases, disinfection was carried out in 184 houses. In 118 cases, rooms were sprayed, in 5 cases rooms were fumigated with sulphur by the tenant. In 51 instances rooms, and in 3 cases the whole house were stripped, cleansed and whitewashed; in 77 instances the rooms were thoroughly cleansed. In 15 cases the bedding or clothing was burnt; in 35, the bed ticks, &c., were washed; and in 96 the bedding was disinfected by steam; personal apparel was similarly treated.

The sanitary defects found and remedied in connection with visits to cases of and deaths from phthisis and other tuberculous diseases, are given in other tables.

Sanatorium Treatment.—The chief facts relating to this are set forth in a special supplement to this report (page 76). It will be remembered that the interest on £20,000 under the Hedgcock Bequest first came available at the beginning of April, 1906. Before that only ten consumptive patients at a time had been treated in the Sanatorium. Since then 25 patients at a time are treated. The exact number of new cases treated during 1906 was 181. Of this number 166 had been notified during 1906. The total cases notified that year was 373, which means that 44·5 per cent. of the cases notified during the year had the advantage of Sanatorium treatment and training. The average stay of each of these new patients was 35 days. 32 cases were re-admitted to the Sanatorium. Of the 166 treated in the Sanatorium, 3 were subsequently admitted to the Infirmary: and of the 207 notified during the year who had not received Sanatorium treatment, 30 were admitted during the year to the Infirmary.

WORK OF MUNICIPAL LABORATORY.

The work of this laboratory commenced in November, 1897. The work in connection with it has steadily increased, as shewn by the following Table :—

		1897-8 (14 mths.)	1899	1900	1901	1902	1903	1904	1905	1906
Widal Test for Typhoid Fever		164	153	95	88	103	106	98	92	57
Bacteriological Diagnosis of	Diphtheria	414	2033	2191	2962	2537	3559	3107	2573	2388
	Phthisis ...	21	47	86	125	169	338	472	383	720
	Ringworm	—	—	—	—	—	—	—	46	18

Of the town swabs examined for doctors or for the medical officer of health (contact cases) 170 were positive, 600 negative, 16 doubful, and in 33 no growth occurred. Total 819.

From the patients admitted for diphtheria 169 specimens were positive, 204 negative, 4 doubtful and in 25 no growth occurred; total 402. Many of the negative results were positive when second swabs were taken.

From the convalescent diphtheria patients 182 specimens were positive, 652 negative, 30 doubtful, and 60 no growth occurred; total 924. The rule was to obtain three consecutive negative swabs from each patient before sending the patient home.

The scarlet fever patients were similarly swabbed on admission or whenever an intercurrent sore throat occurred. This has been an efficient safeguard against the accidental introduction of diphtheria into the scarlet fever wards. During last year 11 swabs from scarlet fever patients showed diphtheria bacilli, 11 were doubtful, 215 were negative, and in 6 no growth occurred; total 243. All cases suspected of mixed infection were separately treated. Specimens of blood sent in by doctors for the detection of enteric fever were examined in 57 instances, viz., 12 positive, 42 negative, and 3 doubtful.

The number of specimens of sputum examined for practitioners was 474, viz., 171 positive, and 303 negative. Of the total 246 examined for patients admitted for open-air treatment, 146 were positive, 100 negative. The great increase in number of specimens examined can be seen in the figure in Appendix.

Examination of Water Supplies.—Careful records are kept of all the analyses made of the water supply, and we are gradually collecting a long series of standard analyses for reference, which will enable us rapidly to check any possible departure from normal conditions. It need hardly be said that the water in use from each of the sources of supply is extremely pure. The number of analyses has been as follows:—

Number of Samples examined.	Chemically.	Bacteriologically.
Lewes Road	7	7
Goldstone	12	14
Mile Oak	11	12
Shoreham	11	12
Patcham	12	12
Falmer	12	12
Total	65	69

THE BOROUGH ISOLATION HOSPITALS.

	Number of Patients suffering from the following Diseases :—										Fulking Grange.
	Scarlet Fever.	Enteric Fever.	Measles.	German Measles.	Diphtheria.	Erysipelas.	Chicken Pox.	Phthisis.	Other Diseases.	Total in Sanatorium	Small Pox.
Remaining in the Sanatorium, December 31st, 1905... ...	14	0	—	—	6	—	—	13	—	33	—
Remaining in Fulking Grange, December 31st, 1905... ...	—	—	—	—	—	—	—	—	—	—	—
Admitted to Sanatorium during 1906	203	12	4	1	188	8	1	216	2	635	—
Total number treated 1906 ...	217	12	4	1	194	8	1	229	2	668	—
Number discharged during 1906	184	10	4	1	172	8	—	199	—	578	—
Number who have died in Sanatorium in 1906	0	1	—	—	3	—	—	7	2	13	—
Remaining under treatment on December 31st, 1906 ...	33	1	—	—	19	—	1	23	—	77	—

Of the above patients two of scarlet fever belonged to the Sanatorium staff.

The children of inhabitants of the Borough are not charged, but £568 16s. 6d. was paid for the maintenance of other patients in the Sanatorium. Of this amount £403 16s. 10d. was paid for private patients who had special rooms, including patients from boarding schools, £42 19s. 2d. was paid for Poor Law patients, and £122 0s. 6d. for paying patients in the consumptive ward. £19 4s. 2d. was paid for special disinfection done in the town, &c. In addition to the above amounts, £435 19s. 0d. was received for the maintenance of 79 Hedgcock patients who had completed their treatment between April 3rd and December 31st, 1906.

The following table prepared by the Borough Accountant shows the expenditure for the year on the two hospitals. The total number of weeks spent by all the patients in the Sanatorium was 3,219, as compared with 2,847 in 1905. Of the total in 1906, Scarlet Fever patients spent 1,105 weeks, Diphtheria patients 898 weeks, and Phthisis patients, 1,108 weeks.

COUNTY BOROUGH OF BRIGHTON HOSPITALS.

EXPENDITURE—SANATORIUM—BEAR ROAD.

				£	s.	d.	£	s.	d.
Salaries and Wages—									
Medical Officer	£150	0	0						
Matron	90	0	6						
Nurses and Servants	960	1	7						
Labour (gardens)	150	17	7						
				1350	19	8			
Repairs				183	2	7			
Fuel				682	10	1			
Electricity, £174 18s. 10d.; gas, £43 3s. 6d;				218	2	4			
Water				50	0	0			
Hose and fittings				21	0	8			
Sundry household goods, furniture and repairs				274	0	8			
Provisions				1822	2	7			
Drugs and medical sundries				178	15	6			
Surgeons' fees (special cases) and hire of extra nurses				91	14	6			
Uniforms for matron, dresses for nurses and servants, hospital garments, linen, flannel and drapery goods				155	1	8			
Printing, advertising, stationery and stamps				35	15	1			
Rates, taxes and insurance				618	6	7			
Travelling expenses, cab hire, carriage, telegrams and sundries				11	19	8			
Garden seeds, manure, &c.				21	14	5			
Telephone rent				7	14	3			
							5723	0	3

THE GRANGE, FULKING.

Wages	£72	16	0						
Repairs	15	5	4						
Fuel	6	2	6						
Sundry household goods	5	6	4						
Travelling and miscellaneous expenses	1	9	0						
Rates, taxes and insurance	28	15	0						
Telephone rental	35	0	0						
				164	14	2			
							164	14	2
							£5887	14	5

SCHOOL INSPECTIONS.

Only two branches of the work of medical inspection of schools are as yet completely organised, viz., the control of epidemic diseases and of contagious diseases of the skin. The latter of these is supervised by the school nurse—Miss Payne—who has now nearly completed her first year of work, in succession to Miss Dixon, who had carried on similar work under the Education Committee for eighteen months. The following table summarises the school nurse's work for 1906.

	Boys.	Girls.	Infants.	Total.
Ringworm	59	68	75	202
Itch	8	14	14	36
Verminous Heads or Bodies	25	504	241	*770
Eczema	36	40	68	144
Other Conditions...	110	336	330	746

* Including 180 cases of body-lice.

The nurse's programme is as follows: there are 33 elementary schools and 83 departments of schools in the borough. Each of these schools and departments is visited once fortnightly, and five of the poorest schools are visited weekly. This implies a visit to four schools daily, in addition to special visits to children's homes as required by the necessities of the cases, or as requested by head teachers. During 1906 274 visits were made to children's homes, in order to advise parents, or to investigate special cases, *e.g.*, ringworm, sore heads, &c.

In a large number of instances the mothers have been requested to meet the nurse at the school and receive her instructions. The moral effect of this request is much greater than that of a visit to the child's home; and the appointment at the school enables much more work to be accomplished than would be possible if the visits had to be made in such cases to the children's homes.

During 1906, 202 cases of ringworm have been seen, 36 of itch, 770 of head lice, and 180 of body lice.

The condition of the heads of children admitted to the Sanatorium for acute infectious diseases is a good index of the cleanliness of the school children of the town. During 1906, 204 children aged over 4 and under 14 were admitted to the Sanatorium. Of these, 50 per cent. had clean heads, 48 per cent. verminous heads, and 2 per cent. had ringworm of the scalp.

Communicable Diseases at Schools.—During 1906, 606 cases of measles, 4 of German measles, 101 of whooping cough, 14 of sore throat, 30 of doubtful illness, 37 of chicken pox, and 168 of mumps, were notified by school teachers. The effectiveness of these notifications depends chiefly on their promptitude, and in this particular there are considerable variations.

School Closures.—For measles, Elm Grove Infants' School was closed for a week prior to the Whitsuntide holidays, Richmond Street Infants' School was closed from May 31st to June 15th, St. Martin's Infants' School from June 18th to July 2nd, and Pelham Street Infants' School from November 2nd to 16th.

School Notices and Letters.—1,091 of these were sent to school teachers during the year. The notices sent to parents considerably exceed this number.

SANITARY WORK OF THE YEAR.

SANITARY INSPECTION.

In the following Tables, prepared by Mr. Skinner, the Chief Sanitary Inspector, the work of the Sanitary Department is stated, so far as it can be given in tabular form :—

Inspections during 1906.

	Totals for 1905.	Totals for 1906.
Number of Streets Inspected	275	249
,, Houses and other Premises Inspected...	15591	14543
No. of Complaints attended to...	794	816
,, Visits to Slaughter Houses	2355	2866
,, ,, Cowsheds	43	80
,, ,, Bakehouses	420	332
,, ,, Dairies and Milk Shops ...	461	343
,, ,, Provision Shops	2963	4181
,, ,, Restaurants	144	114
Number of Day Visits to Common Lodging-Houses	156	138
Number of Night Visits to ditto	88	133
,, Visits in respect of Sickness ...	6400	4759
,, Visits to Disinfect Rooms ...	736	843
,, Visits for Removal of Bedding ..	597	653
,, Drains Tested by Volatile Test..	56	63
,, Drains Opened for Examination	325	298
,, Visits for Sundry Purposes ...	4882	7298
,, Visits to look up Notices Served	7055	6363
,, Attendances at Police Court ...	32	25
,, Samples Collected for Analysis...	502	500
,, Inspections of Stables	1753	1928
,, Wastes of Water Reported ...	59	58
,, Letters sent to Schools and Public Library	1382	1099
Meteorological Observations Taken	678	730
Visits to Schools	117	137
Number of Visits under Factory and Workshops and Shop Hours Acts	3557	3226
Drains Flushed	34	19
Circulars Delivered *re* Diarrhœa, &c.... ..	10000	10850
Markets Committee, One Inspector	12 days.	12 days.
Visits to Houses Let in Lodgings (Day) ...	285	216
,, ,, ,, ,, (Night) ..	96	11
,, Offensive Trades	114	146
Smoke Observations	53	27
Contagious Diseases (Animals) Act . ..	36	29
Visits to Ice Cream Vendors	154	76
Special Duty at East Preston *re* Milk Outbreak of Infection, One Inspector	~~18 days.~~	15 days.

It will be seen by the above table, that more visits have been made to provision shops during the year than were made in the previous year. This is due to the fact that fish shops were frequently visited during the hot weather to ensure the regular removal of offal and empty boxes, &c., in which the fish had arrived, which smell very offensive if kept on the premises without being washed.

Marine stores have also been regularly inspected to ensure the prompt removal of offensive matter, and to see that proper precautions were taken to prevent a nuisance from the drying of rabbit skins, &c.

All stables have been kept under close observation during the year, and the regular removal of manure has been enforced. Since the substitution of movable galvanized iron manure cages for the old-fashioned under-ground manure pit very few complaints have been received of nuisances from stables.

The visits for sundry purposes include the testing of house drains after repairs and alterations, to see that these are properly carried out, but not the testing of new drains. The latter is done by the Borough Surveyor's department. Visits to premises with builders and owners to arrange the details for carrying out work ordered, inspections of common passages at the rear of houses, waste land, areas of unoccupied houses, and visits to dirty houses are also included under this head. Houses occupied by dirty tenants are kept under observation until an improvement in their condition is made.

Many of the complaints received were due to the keeping of fowls, rabbits, &c., in back yards of houses. This practice is most objectionable and sometimes causes serious nuisance.

The sanitary inspections enumerated in the Table have been followed by the serving of the notices given in the following Table. A very large proportion of the work is done on the strength of verbal recommendations or preliminary "warning" notices.

Notices served during 1906.

Nature of Notice.	Warning and Verbal Notices.						Final Notices.				Total number of notices complied with.	
	Number served.		Number complied with before service of final notice.		Number reported for final notice.		Number served.		Number complied with.			
	Owners.	Occupiers.	Owners.	Occupiers.	Owners.	Occupiers.	Owners.	Occupiers.	Owners.	Occupiers.	Owners.	Occupiers.
To drain into sewer and fill up cesspools	3	—	2	—	1	—	1	—	1	—	3	—
To relay drain and fill up cesspools	1	—	1	—	—	—	—	—	—	—	1	—
To relay drain	192	—	119	—	73	—	84	—	83	—	202	—
To repair drain or soil pipe	54	1	34	1	20	—	21	1	21	1	55	2
To trap drain	47	—	21	—	26	—	29	—	28	—	49	—
To cleanse and whitewash rooms	261	33	137	23	124	10	150	11	145	11	282	34
To clear drain or soil pipe ...	81	23	35	5	46	18	62	7	62	7	97	12
To clear, repair or cleanse closet, or repair flushing apparatus or pan	406	164	217	71	189	93	219	91	217	91	434	162
To repave yard or scullery	238	8	121	7	117	1	171	1	164	1	285	8
To abate other nuisances ...	683	85	366	66	317	19	398	7	389	7	755	73
To provide covered dust bins	572	2	328	2	244	—	334	—	325	—	653	2
To provide premises with a proper water supply ..	5	—	3	—	2	—	2	—	2	—	5	—
To cleanse premises and remove foul accumulations	55	394	25	195	30	199	7	251	5	251	30	446
To provide manure receptacles	8	—	3	—	5	—	14	—	14	—	17	—
To remove foul manure pits	3	—	2	—	1	—	4	—	4	—	6	—
To provide W.C. accommodation	10	—	7	—	3	—	4	—	4	—	11	—
To cause waste pipes to discharge into outer air ...	2	1	1	1	1	—	1	—	1	—	2	1
To render damp walls with cement compo	29	—	13	—	16	—	35	—	33	—	46	—
To lay on water to closets...	3	—	3	—	—	—	1	—	1	—	4	—
To abate overcrowding ...	—	99	—	24	—	75	—	60	—	60	—	84
To discontinue keeping animals so as to be a nuisance	—	132	—	49	—	83	—	81	—	81	—	130
To abate smoke nuisance ...	—	11	—	9	—	2	—	2	—	2	—	11
To cleanse and whitewash bakehouse	—	69	—	64	—	5	—	3	—	3	—	67
To cleanse and whitewash workrooms	—	21	—	21	—	—	—	—	—	—	—	21
To alter water pipes ...	2	—	—	—	2	—	1	—	1	—	1	—
Totals	2655	1043	1438	538	1217	505	1538	515	1500	515	2938	1053

No summonses were required during the year to enforce the removal of Nuisances, and during the past 6 years only 4 such summonses have been necessary. This proves the absence of friction between the department and the public, especially in view of the magnitude of the repairs and alterations carried out each year.

COMMON LODGING HOUSES.

Ten are at present registered, having accommodation for 271 lodgers. The bye-laws have been properly carried out in these houses during the year.

HOUSES LET IN LODGINGS.

Bye-laws for houses of a rateable value not exceeding £26, and having four families in them if the landlord lives in the house, were confirmed by the Local Government Board, on July 13th, 1898. Seventy-four such houses are now on the register, as compared with 85 at the end of 1905.

There has been no breach of the bye-laws respecting these houses during 1906.

REMOVAL OF HOUSE REFUSE.

In accordance with the arrangement made with the Borough Surveyor's Department, the following information has been supplied, and the necessary notices served in each instance.

No dust bins, defective bins, &c....	145
Other sanitary defects	None

HOUSING OF THE WORKING CLASSES ACT, PART II.

Official representations have been made by me, under Part II. of the above Act during 1906, that the following premises are in a state so dangerous to health, as to be unfit for human habitation :—

Situation of Premises.	No. of houses.	Legal proceedings taken.	Result.
Riding School Lane ...	1	None.	House practically re-built.

The following summonses were issued during the year:— Permitting dwelling-houses to be occupied when unfit for human habitation, 3. In one case a closing order was made and the house was afterwards put into thorough repair; in another case the summons was dismissed by the Magistrates, the owner, who resided in the house, undertaking to discontinue using two of the rooms as living rooms; and in the third case the Magistrates ordered the execution of certain alterations, and adjourned the case to allow these to be made, and afterwards dismissed the summons.

Failing to remove offal, &c., from slaughter house every 24 hours, one. The defendant was fined 20s. and costs, or 7 days.

PUBLIC ABATTOIR

Has been open twelve complete years. The number of animals slaughtered each successive year to the end of 1905, has been 6,991, 11,184, 12,054, 12,650, 16,384, 18,304, 17,645, 20,318, 22,962, 25,804 and 26,978.

The number of animals killed in 1906 was 26,875, viz. :—2,318 beasts, 1,742 calves, 1,110 lambs, 857 sheep and 7,702 pigs, in the public slaughter-houses; and 49 beasts, 49 calves, 438 lambs, 1,746 sheep, and 3,416 pigs, in the private slaughter-houses at the Abattoir.

The amount received in tolls since the opening of the Abattoir has been as follows:—November and December, 1894, £7 13s. 4d.; 1895, £102 15s. 4d.; 1896, £122 4s.; 1897, £115 7s. 7d.; 1898, £185 10s. 3d.; 1899, £243 9s. 4d.; 1900, £279 17s.; 1901, £271 13s. 10d.; 1902, £352 14s. 10d.; 1903, £402 11s. 10d.; 1904, £434 4s. 3d.; 1905, £451 9s.; 1906, £467 5s. 2d.

In addition to the above amounts there is also an income of £64 7s. per annum from the rental of private slaughter-houses at the abattoir, and £10 from sale of offal.

PRIVATE SLAUGHTER-HOUSES.

In various parts of the town 33 private slaughter-houses are in use. One has deen closed during 1906. The bye-laws for slaughter-houses have, on the whole, been fairly well carried out during the year, one case requiring prosecution having arisen. Each slaughter-house is visited several times a week by Inspector Cuckney, the Superintendent of the Abattoir.

Unsound Meat seized or surrendered during 1906.

Description.	Number of Animals.	Number condemned by Magistrate.	Number destroyed by arrangement with owners.	Total weight in lbs.
A.—*At the Abattoir—*				
Bullocks (whole carcase) ...	3	—	3	2360
,, (part of carcase) .	346	—	346	7204
Calves (whole carcase) ...	1	—	1	90
,, (part of carcase) ...	8	—	8	62
Sheep (whole carcase) ...	15	—	15	988
,, (part of carcase) ...	251	—	251	1043
Pigs (whole carcase) ...	35	—	35	3995
,, (part of carcase) ...	1291	—	1291	6042
	1950	—	1950	21784
B.—*In the Private Slaughter-Houses and Shops—*				
Bullocks (whole carcase) ...	12	—	12	7585
,, (part of carcase)	654	1	653	16482
Calves (whole carcase) ...	3	—	3	293
,, (part of carcase) ...	14	—	14	258
Sheep (whole carcase) ...	22	—	22	1639
,, (part of carcase) ...	290	—	290	1403
Pigs (whole carcase) ...	12	—	12	1106
,, (part of carcase) ...	134	—	134	788
	1141	1	1140	29554

Of the beasts, 1 bull, 1 heifer, 1 steer and 8 cows were found to be diseased to such an extent that the whole carcase was destroyed. 260 parts of beasts were also found to be tuberculous. 3 calves, 16 parts of calves, 23 pigs, and 516 parts of pigs were also found to be tuberculous.

OTHER FOODS SURRENDERED DURING 1906.

Asparagus, 18 bundles; apples, 2 boxes; chicory, 1 pad; cherries, 1 half sieve; glucose, about 48 gallons; plums, 5 half sieves; pears, 1 barrel; pears, 2 bushels; quinces, 4 boxes; scarlet runner beans, 11 bushels; sugar, about 6 cwt.; sweets, about 2 cwt.; haddocks, 15 boxes; rabbits, 88; chicken, 37; soup, 1 tin; cauliflowers, 35 dozen; bread, 10 loaves.

The following food was seized and condemned by the Magistrate:—chicken, duck and turkey, 161 tins.

Proceedings were taken against the vendors of the above; one of these was fined 40s. and 42s. advocate's fee and costs; the case against the other defendant was dismissed on the point of guilty knowledge not having been proved.

SALE OF FOOD AND DRUGS ACTS.

Number of samples collected...	500
,, ,, adulterated	51
,, prosecutions	5
,, convictions	4
,, dismissed	1

Aggregate amount in fines	£1	11	0
Analysts' fees recovered ...	1	0	0
	£2	11	0

Cost of samples	£3	0	5
Cost of assistance, postage and railway fares	5	12	1
Cost of analysis	174	3	6
Analyst's salary	50	0	0
	£232	16	0
Fines & Analyst's fees recovered	2	11	0
Net cost of working the Act...	£230	5	0

Four milk sellers were fined, amounts varying from 10s. to 1s.

PUBLIC ANALYST'S REPORT.

By MEREDITH WYNTER BLYTH, B.A., B.Sc., F.I.C.

Report on samples analysed under the Sale of Food and Drugs Act, during the year 1906:—

Samples of	Number of Samples.	Adulterated.	Percentage of Adulteration.	Nature of Adulteration.
Milk	325	35	10·76	Abstraction of fat. Addition of preservatives or coal tar colours.
Butter	83	3	3·61	Excess of water or preservatives.
Margarine ...	8	—	—	
Lard	7	—	—	
Cheese	6	—	—	
Spirits	12	1	8·33	Excess of water.
Condiments and Spices... ...	8	—	—	
Cocoa	3	—	—	
Tinned, Potted & Bottled Goods	20	14	70·00	Presence of preservatives or colouring matter.
Sweets	6	—	—	
Baking Powder	3	1	33·33	Presence of alum.
Sausages ...	3	3	100·00	Presence of preservatives.
Bacon	1	—	—	
Tripe	3	1	33·33	Excess of preservative.
Drugs	13	3	23·07	Camphorated oils, deficient in camphor.
1906—Total ...	501	61	12·17	
1905— ,, ...	503	60	11·92	
1904— ,, ...	501	47	9·38	
1903— ,, ...	507	92	18·14	
1902— ,, ...	502	114	22·70	
1901— ,, ...	490	93	18·97	

Table showing total samples of milk analysed, and proportion watered or deficient in fat from 1900 to 1906:—

		Total Samples.	Below Standard.	Per cent. below Standard.	Average per cent. of Fat.
Weekday Samples	Wholesale, 1900-1905	558	26	4·65	3·67
	,, 1906 ...	62	2	3·22	3·43
	Retail, 1900-1905 ..	876	110	12·55	3·53
	,, 1906	239	21	8·78	3·54
Sunday Samples	Wholesale, 1900-1905	36	—	—	3·83
	,, 1906 ...	—	—	—	—
	Retail, 1900-1905 ...	254	28	11·03	3·52
	,, 1906	24	—	—	3·52

Table showing all forms of milk adulteration, *i.e.*, added water, deficiency of fat, addition of colouring matter (except annatto) and preservatives, during 1905 and 1906:—

		1906.			1905.
		Total Samples.	Adulterated.	Percentage of Adulteration.	Percentage of Adulteration (Total Samples 297).
Weekday Samples	Wholesale	62	2	3·22	9·72
	Retail	239	33	13·80	16·40
Sunday Samples	Wholesale	—	—	—	—
	Retail	24	—	—	12·50
	Total	325	35	10·76	13·80

Milk.—The quality of the samples of milk examined showed a marked improvement over the previous year.

That there is still room for further improvement is evident from the fact that whereas 13·8 per cent. of the retail week-day samples were found to be adulterated, only 3·2 per cent. of the wholesale samples fell below the recognised standards. In no case was a sample from wholesale sources found to contain added colouring matter or preservatives; on the other hand, several retail samples contained coal tar dyes or preservatives, and at least 80 per cent. of the samples were coloured with annatto. The general quality of the milk, as supplied to the public, cannot be considered satisfactory as long as this manipulation by the retailers continues.

Butter.—In two samples a small excess of water was found, and in one case, an excessive amount of preservative. In several samples the quantity of water very closely approached the maximum, and in two cases the quality of the fat was very doubtful. In the majority of the samples the butters were of good quality and showed no signs of being adulterated with the smallest quantity of foreign fats.

Tinned, Potted and Bottled Goods, Sausages, Tripe, Bacon.—The number of samples reported against was greatly increased by the extra number of samples of potted meats, &c., taken during the year. Had it not been for these samples the percentage of adulteration for the year would have been remarkably low.

The importance of cleanliness in the preparation of preserved meats has been fully brought home to everyone during the past year. If tinned, potted or bottled meats or fruits are prepared in a proper manner, there is no need for the manufacturer to add chemical preservatives to prevent the goods going bad. The presence of preservatives is therefore always a sign that something is wrong in the preparation of the article, and on this account, quite apart from any injurious action that the preservative may have on the human organism, foods containing preservatives should be avoided.

The following samples were adulterated :—

Tripe, boric acid, 56 grains per lb.
Ham and chicken (tinned), coloured with oxide of iron.
Ham and tongue (tinned), a small amount of boric acid.
Bloater paste (tinned), coloured with oxide of iron.
*Ham and chicken (tinned), boric acid 21 grains per lb.
*Turkey and tongue (tinned), boric acid 25 grains per lb. Oxide of iron.
*Salmon and shrimp paste (glass), boric acid 12·6 grains per lb.
Salmon and shrimp paste (glass), a trace of boric acid.
Ham and tongue (tinned), a trace of boric acid. Oxide of iron.
Ham and tongue (tinned), a trace of boric acid. Oxide of iron.
*Ham and chicken (tinned), boric acid, 21 grains per lb.
*Turkey and tongue (tinned), boric acid, 19 grains per lb.
*Salmon and shrimp paste (glass), boric acid, 37 grains per lb.
†Tomato ketchup (bottled), benzoic acid, 9·8 grains per lb.
†Tomato ketchup (bottled), benzoic acid, 9·8 grains per lb.
Sausages, boric acid, 17·5 grains per lb.
Sausages, boric acid, 7 grains per lb.
Sausages, boric acid, trace.

Spirits.

SAMPLES OF	Absolute Alcohol by volume per cent.	Parts per 100.000 of absolute alcohol by volume.					
		Volatile Acids as Acetic Acid.	Ethers as Ethyl Acetate.	Aldehydes.	Furfural	Higher Alcohols.	Total.
Irish Whisky ...	41·90	6·0	60·0	3·0	1·0	100·0	170
Irish Whisky ...	43·00	6·0	40·0	3·0	Nil.	100·0	149
Irish Whisky ...	43·01	10·0	50·0	3·0	Nil.	60·0	123
Scotch Whisky ...	42·45	6·0	60·0	10 0	3·6	80 0	159·6
Scotch Whisky ...	44·80	14·0	80 0	8·0	3·6	180·0	285 6
Scotch Whisky ...	43·50	9·0	50·0	Nil.	3 6	60·0	122·6
Brandy	38·11	20·0	100·0	5·0	8·0	100·0	233
Brandy	44·24	28·0	70 0	5·0	3·6	100·0	206
Brandy	44·24	23·0	70·0	5·0	3·6	100·0	201·6

The question as to what should be sold as whisky has not yet been settled. In the meanwhile I have adopted the same course as last year, *i.e.*, a simple statement of the results of analysis and the inferences to be drawn from these, without any remarks as to whether the samples should be considered adulterated or not. Of the above samples all are probably made either from silent (grain) spirit only or from mixed grain and malt. Of the Brandies the first is probably from grape spirit only, whilst the other two are probably mixtures.

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* These samples were different samples of the same brand.
† These samples were different samples of the same brand.

TABLE I.—APPENDIX. *(Vital Statistics of Brighton during 1906, and previous Years).*

YEAR.	Population estimated to Middle of each Year.	BIRTHS.		DEATHS UNDER ONE YEAR OF AGE.		DEATHS AT ALL AGES. TOTAL.		DEATHS IN PUBLIC INSTITUTIONS.	Deaths of Non-residents registered in public institutions within the Borough.	Deaths of Residents registered in public institutions beyond the Borough.	DEATHS AT ALL AGES NET.	
		Number.	Rate.†	Number.	Rate per 1,000 Births registered.	Number.	Rate.†				Number.	Rate.†
1	2	3	4	5	6	7	8	9	10	11	12	13
1896 ...	119,760	3025	25·3	410	124	—	—	369	—	—	—	—
1897 ...	120,510	2986	24·8	428	144	—	—	381	—	—	—	—
1898 ...	121,270	3035	25·0	544	179	—	—	386	—	—	—	—
1899 ...	122,040	3058	25·1	530	173	—	—	447	—	—	—	—
1900 ...	122,860	2920	23·8	484	166	—	—	501	—	—	—	—
1901 ...	123,668	2984	24·1	483	162	2085	16·8	485	68	—	2025	16·4
1902 ...	124,539	3072	24·3	387	125	2052	16·2	525	92	15	1975	15·7
1903 ...	125,405	3046	24·3	348	114	1833	14·6	458	72	8	1769	14·1
1904 ..	126,286	2963	23·5	395	133	2156	17 1	516	96	7	2060	16·3
1905 ...	127,183	2901	22·8	297	102	1739	13·6	462	94	51	1696	13·3
Averages for years 1896-1905	123,352	2999	24·3	430	142	—	—	453	—	—	—	—
1906 ...	128,095	2853	22·27	317	111	1887	14·73	499	86	60	1861	14·53

†Rates in Columns 4, 8 and 13 calculated per 1000 of estimated population.

TABLE II.—APPENDIX.

		Number of Deaths during 1906.											
	Births in 1906.	All causes.	Deaths under one year.	Small Pox.	Scarlet Fever.	Diphtheria.	Enteric Fever.	Measles.	Whooping Cough.	Diarrhœa.	Phthisis.	Other Tubercular Diseases.	Bronchitis and Pneumonia.
Kemp Town	123	98	11	—	—	1	—	—	—	1	6	4	10
Queen's Park	213	192	44	—	—	3	—	1	1	4	17	3	28
Pier	218	197	37	—	—	—	—	3	2	9	13	7	24
Pavilion ...	72	42	2	—	—	—	—	—	—	—	7	—	6
Regency ...	89	92	20	—	—	—	—	—	1	3	8	2	16
West ...	34	70	5	—	—	—	—	—	1	—	3	1	7
Montpelier	74	69	5	—	—	3	—	—	—	1	14	2	8
St. Nicholas	183	112	22	—	—	—	1	—	2	4	14	4	17
St. John's ...	343	170	34	—	1	—	1	4	3	11	16	9	28
Hanover ...	264	168	34	—	1	1	1	3	1	8	18	9	30
Lewes Road	463	199	39	—	—	1	—	8	6	10	24	12	30
St. Peter's ...	173	117	23	—	—	1	—	2	1	9	11	6	16
Preston Park	256	137	16	—	—	1	—	1	2	1	18	7	21
Preston ...	348	179	25	—	—	2	—	6	2	7	16	7	20
	2853	1842	317	—	2	13	3	28	22	68	185	73	261

Of the 268 deaths in the Workhouse, nine were of children who were born in the Workhouse.

The Queen's Park Ward contains the Workhouse. Where the information was obtainable, deaths in this Institution have been distributed to the Wards from which the patients were removed to the Workhouse. There remains 52 deaths (out of the 192 in the Queen's Park Ward) which occurred in the Workhouse, of patients from outside Brighton or whose Brighton address was unknown. Of these four were due to phthisis and one to other tuberculous diseases.

The 42 deaths in the Pavilion Ward include one of a visitor to Brighton in the Lying-in Hospital.

The 69 deaths in the Montpelier Ward do not include the deaths of a number of children occurring in this Institution, whose home addresses were known, these being stated in the Wards to which they belong. It includes 9 deaths in the Children's Hospital of patients whose home address was outside Brighton. Of these, two were due to diphtheria, one to phthisis, two to other tubercular diseases, and one to diarrhoea.

The 112 deaths in the St. Nicholas Ward include one death in the Throat and Ear Hospital of a patient from outside Brighton.

TABLE III.—APPENDIX.

INFANTILE MORTALITY DURING THE YEAR 1906.

Deaths from Stated Causes in Weeks and Months under One Year of Age.

CAUSE OF DEATH.	Under 1 week.	1–2 weeks.	2–3 weeks.	3–4 weeks.	Total under 4 weeks.	1–2 months.	2–3 months.	3–4 months.	4–5 months.	5–6 months.	6–7 months.	7–8 months.	8–9 months.	9–10 months.	10–11 months.	11–12 months.	Total Deaths under 1 year.
All Causes Certified	54	13	14	8	89	36	34	16	25	13	16	19	18	14	17	18	315
All Causes Uncertified	1	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1
Measles	—	—	—	—	—	—	—	—	—	—	—	1	—		—	2	3
Diphtheria : Croup	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	1
Whooping Cough	—	—	—	—	—	1	1	2	1	—	—	—	2	—	3	1	11
Diarrhœa, all forms	—	—	—	2	2	6	3	3	7	6	3	5	1	6	3	4	49
Enteritis, Muco-enteritis, Gastro-enteritis ..	—	—	—	1	1	3	3	—	3	1	2	—	—	2	2	1	18
Gastritis, Gastro-intestinal Catarrh	1	—	—	1	2	—	—	—	—	—	—	—	—	—	—	—	2
Premature Birth	40	4	6	2	52	1	1	—	—	—	1	—	1	—	—	—	56
Congenital Defects	7	3	2	—	11	1	3	—	—	—	—	—	—	1	—	—	17
Atrophy, Debility, Marasmus	1	1	1	—	3	11	11	2	4	2	3	3	2	1	—	1	43
Tuberculous Meningitis	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	—	2
Tuberculous Peritonitis Tabes Mesenterica ...	—	—	—	—	—	—	1	—	—	1	—	—	—	—	—	—	2
Other Tuberculous Diseases	—	—	—	—	—	—	—	—	1	—	1	1	—	—	—	3	6
Syphilis	—	3	2	1	6	8	1	1	1		1	—	—	—	—	—	18
Rickets	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
Meningitis (*not Tuberculous*)	—	—	—	—	—	—	—	1	—	—	1	1	—	—	2	—	5
Convulsions	1	1	1	—	3	1	1	1	—	—	—	1	2	—	—	1	10
Bronchitis	—	—	—	—	—	2	2	2	1	3	—	4	2	2	1	—	19
Laryngitis	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1
Pneumonia	—	1	2	—	3	—	5	2	3	—	1	2	8	1	3	3	31
Suffocation, overlaying	2	—	—	1	3	1	1	1	—	—	1	—	—	—	—	—	7
Other Causes	3	1	—	—	4	1	1	1	4	—	—	1	—	—	2	1	15
	55	13	14	8	90	36	34	16	25	13	16	19	18	14	17	18	317

District (or sub-division) of Brighton. Population, estimated to middle of 1906, 128,095.

Births in the year : legitimate, 2,682 ; illegitimate, 171. Deaths in the year : legitimate infants, 275 ; illegitimate infants, 41.

There were no deaths from the diseases given in the corresponding official table of the Local Government Board, which are omitted in the above table.

TABLE IV.—APPENDIX.

CAUSES OF DEATH.	AGE at Death— 0–1		1–2		2–3		3–4		4–5		5–10		10–15		15–20		20–25		25–35		35–45		45–55		55–65		65–75		75–85		85 and Upwards.		Total Males	Total Females	Total.
	M.	F	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F	M.	F	M.	F.	M.	F.	M.	F	M.	F.	M.	F.	M.	F.			
Measles	1	2	5	4	4	3	2	1	1	1	1	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	14	14	28
Scarlet Fever	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	—	2	2
Influenza	–	–	–	–	–	1	–	–	–	–	–	–	–	–	1	–	–	–	2	–	–	2	–	3	2	2	5	11	2	2	2	–	14	21	35
Whooping Cough	5	6	2	5	1	–	1	–	–	1	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	9	13	22
Diphtheria	–	1	–	1	–	2	1	2	2	1	1	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	6	7	13
Enteric Fever	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	1	–	–	–	–	–	–	–	–	–	–	–	3	—	3
Diarrhœa	22	27	5	4	–	–	1	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	3	1	–	3	–	–	32	36	68
Varicella	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	—	1	1
Syphillis	7	11	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	1	–	–	–	–	9	12	21
Erysipelas	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	1	–	–	–	1	–	–	–	1	–	1	–	5	—	5
Tetanus	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	1	—	1
Puerperal Fever	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–	–	—	2	2
Septicœmia	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–	–	–	3	—	3
Ulcerative Endocarditis	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	1	–	1	–	–	–	–	–	–	–	–	–	–	1	2	3
Cellulitis	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	1	1	1	2
Rheumatism of the Heart	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	—	1
Rheumatic Fever	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	1	–	–	–	1	–	1	–	–	1	–	–	–	–	4	1	5
Brain Tuberculosis	1	1	1	4	3	4	1	1	1	–	3	–	1	–	–	2	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	12	12	24
Lung Tuberculosis	–	–	1	1	–	–	1	1	1	–	1	1	2	2	3	9	8	5	31	20	28	11	24	11	13	4	3	3	–	1	–	–	116	69	185
Alimentary Tuberculosis	–	2	2	–	1	1	1	–	–	–	–	1	–	–	1	1	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	6	5	11
General and Undefined Tuberculosis	6	–	5	3	1	–	–	3	–	1	–	1	1	1	1	1	–	–	–	3	2	1	1	–	2	1	–	–	–	–	–	–	19	15	34
Other Forms of Tuberculosis	–	–	–	–	–	–	1	–	–	1	–	–	–	–	–	–	–	–	1	–	1	–	–	–	1	1	–	–	–	–	–	–	4	2	6
Hydatid Disease	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	—	1
Alcoholism, Chronic	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	1	2	–	–	1	–	–	–	–	–	3	2	5
Rheumatoid Arthritis	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	1	–	1	–	2	1	3	–	1	2	8	10
Gout	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–	2	—	2
Cancer	–	–	–	–	–	–	–	–	–	–	–	–	1	1	–	1	–	1	2	3	4	9	15	21	19	22	18	27	4	13	–	3	63	101	164
Diabetes Mellitus	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	4	3	5	3	–	1	–	–	10	7	17
Haemophilia	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	—	1	1

TABLE IV. *(continued).*

CAUSES OF DEATH.	Age at Death— 0–1		1–2		2–3		3–4		4–5		5–10		10–15		15–20		20–25		25–35		35–45		45–55		55–65		65–75		75–85		85 and Upwards.		Total Males	Total Females	Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M	F.	M.	F.	M.	F.	M.	F.	M.	F	M.	F.	M.	F.	M.	F.	M.	F.			
Anæmia	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	1	–	–	–	–	–	–	1	2	3
Lymphadenoma	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	1	–	–	–	–	–	–	–	–	—	2	2
Premature Birth	32	24	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	32	24	56
Injury at Birth	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	—	—	—
Debility at Birth	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	—	1	1
Atelectasis	5	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	5	2	7
Congenital Defects	4	6	–	–	–	–	–	1	–	–	–	–	–	1	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	5	8	13
Atrophy, Marasmus	21	18	1	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	25	19	44
Rickets	–	1	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	1	2
Old Age	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	8	8	32	42	17	37	57	88	145
Convulsions	7	3	1	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	8	5	13
Meningitis	3	2	–	1	1	–	–	–	–	–	–	–	–	–	–	1	–	–	1	–	–	–	–	–	–	–	–	–	1	–	–	–	6	4	10
Cerebral Abscess	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	1	1	2
Apoplexy	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	3	–	2	2	2	5	3	5	1	–	11	12	23
Softening of Brain	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	3	1	1	–	1	1	6	7
Hemiplegia	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	1	–	1	–	1	2	2	1	–	–	5	4	9
General Paralysis of Insane ...	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	1	–	–	–	–	1	1	2
Other forms of Insanity	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	2	–	–	2	2	4
Cerebral Tumour	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	1	1	1	–	1	–	–	–	–	–	–	2	4	6
Epilepsy	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	1	–	1	–	–	–	4	—	4
Laryngismus Stridulus	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	—	1	1
Locomotor Ataxy	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	1	–	1	–	–	–	–	–	3	—	3
Diseases of Spinal Cord	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	1	2	–	1	–	–	1	5	6
Ill-defined Nervous Diseases ...	1	2	1	–	–	–	–	1	–	–	–	1	–	–	–	–	–	–	2	–	–	–	2	2	4	7	4	1	5	4	–	–	19	18	37
Otitis	–	–	–	–	–	–	–	–	–	–	–	2	–	–	1	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	2	3	5
Diseases of Nose	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	1	—	1
Diseases of Eye	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	—	1	1
Pericarditis	–	–	–	–	–	–	–	–	–	–	1	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	2	1	3
Heart, Valvular Diseases	–	–	–	–	–	–	–	1	–	–	–	–	–	1	1	1	–	–	3	4	1	2	7	10	3	11	11	14	4	2	–	1	30	47	77

TABLE IV. *(continued).*

CAUSES OF DEATH.	Age at Death— 0–1		1–2		2–3		3–4		4–5		5–10		10–15		15–20		20–25		25–35		35–45		45–55		55–65		65–75		75–85		85 and Upwards.		Total		Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Males	Females	
Angina Pectoris	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	1	–	–	–	2	—	2
Aneurism	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	2	–	4	–	–	–	–	–	–	–	7	—	7
Senile Gangrene	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	—	1	1
Embolism Thrombosis	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	2	–	1	–	1	2	–	–	2	1	8	3	11
Phlebitis	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	—	—	—
Other Circulatory Diseases ...	2	–	–	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	–	4	6	3	6	9	20	21	15	24	15	22	2	2	66	87	153
Diseases of Larynx and Trachea	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	—	1	1
Bronchitis, Acute	6	6	3	4	1	–	1	1	1	–	–	–	–	–	–	–	–	–	–	–	–	1	1	–	1	1	1	1	–	2	–	1	15	17	32
Bronchitis, Chronic...	3	4	3	3	–	1	–	1	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	2	8	6	8	28	13	20	1	4	36	70	106
Pneumonia, Lobular	12	9	4	6	1	2	–	1	–	–	1	–	–	–	–	–	–	–	–	–	2	–	1	1	1	–	–	1	1	3	–	1	23	24	47
Pneumonia	5	5	5	–	2	–	2	–	–	–	–	–	–	–	1	–	4	–	5	1	6	4	3	1	1	3	6	9	6	5	1	1	47	29	76
Other Respiratory Diseases ...	1	–	–	–	1	–	1	–	–	–	–	–	–	–	–	–	1	–	2	–	–	1	–	–	3	1	–	1	–	1	–	–	9	4	13
Diseases of Mouth...	–	–	–	–	–		–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	1	–	–	–	2	—	2
Ulcer of Stomach and Duodenum	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	2	–	1	–	–	–	1	–	1	–	–	–	–	—	6	6
Other Diseases of Stomach ..	1	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	1	2	3
Enteritis	8	10	1	–	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	1	1	1	–	–	11	15	26
Appendicitis...	–	–	–	–	–	–	–	–	–	–	2	–	–	–	–	1	–	–	–	–	–	–	–	–	–	1	–	1	–	1	–	–	2	4	6
Obstruction of Intestine	1	–	1	–	1	–	–	–	–	–	–	–	–	–	–	–	1	–	1	–	1	–	–	1	4	1	1	–	–	1	–	–	11	3	14
Cirrhosis of Liver	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	2	1	1	5	4	7	6	3	1	–	2	–	–	17	16	33
Other Diseases of Liver	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–	–	1	1	1	–	–	1	–	4	2	6
Peritonitis	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	1	–	–	–	–	1	1	1	–	–	–	2	4	6
Other Diseases of Digestive System	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	1	–	–	—	2	2
Diseases of Lymphatic System and Ductless Glands	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	1	1	–	–	–	–	2	–	–	–	–	–	–	2	3	5
Acute Nephritis	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	1	–	2	–	1	–	–	–	2	–	1	–	7	1	8
Bright's Disease	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	1	5	1	7	2	5	2	3	8	1	3	–	–	22	17	39

TABLE IV. (*continued*).

CAUSES OF DEATH.	Age at Death— 0–1		1–2		2–3		3–4		4–5		5–10		10–15		15–20		20–25		25–35		35–45		45–55		55–65		65–75		75–85		85 and Upwards.		Total Males	Total Females	Total.
	M	F	M	F	M	F	M.	F	M.	F.	M.	F	M	F	M.	F	M	F.	M.	F.	M.	F	M.	F.	M	F.	M.	F	M.	F.	M.	F.			
Diseases of Bladder and Prostrate	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	3	–	3	–	3	–	1	–	10	—	10
Other Diseases of Urinary System	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	1	–	–	1	–	–	–	1	2	3
Diseases of Penis and Testis ...	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	—	—	—
Diseases of Ovaries...	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	—	1	1
Diseases of Uterus and Appendages	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	1	–	1	–	–	–	1	–	–	–	–	—	4	4
Puerperal Convulsions	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	1	–	–	–	–	–	–	–	–	–	–	–	–	—	2	2
Placenta Praevia, &c.	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	—	1	1
Puerperal Thrombosis	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	—	1	1
Other Diseases of Pregnancy and Child Birth	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	1	–	–	–	–	–	–	–	–	–	–	—	2	2
Arthritis, Ostitis	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	—	—	—
Other Diseases Osseous System...	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	1	2	3
Accidental—																																			
In Vehicular Traffic	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	1	—	1
On Railways	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	2	—	2
Burns and Scalds...	1	–	1	–	–	–	1	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	3	1	4
Poisons, Poisonous Vapours ...	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	1	1	–	1	1	–	–	–	3	2	5
Drowning...	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	1	–	–	–	–	–	–	–	1	1	2
Suffocation, overlaid in bed ...	2	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	3	5
Suffocation, otherwise	2	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	1	3
Falls	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	1	–	–	1	–	–	–	–	2	1	3
Otherwise and not stated	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	—	1	1

TABLE IV.—*continued.*

CAUSES OF DEATH.	Age at Death— 0–1 M.	F.	1–2 M.	F.	2–3 M.	F.	3–4 M.	F.	4–5 M.	F.	5–10 M.	F.	10–15 M.	F.	15–20 M.	F.	20–25 M.	F.	25–35 M.	F.	35–45 M.	F.	45–55 M.	F.	55–65 M.	F.	65–75 M.	F.	75–85 M.	F.	85 and Upwards M.	F.	Total Males	Total Females	Total.
Surgical—																																			
Narcosis	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	—	1	1
Weather Agencies...	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	1	1	2
Homicide	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	1	1	2
Suicide—																																			
By poison...	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	2	1	2	1	–	–	–	–	–	–	–	–	4	3	7
By Hanging	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	2	–	–	–	–	–	–	–	–	–	3	—	3
By Shooting	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	1	—	1
By Precipitation from Elevated Places	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	1	—	1
Other Ill-defined Causes and not Specified	–	1	–	1	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	1	–	1	–	–	–	–	–	–	–	–	–	3	2	5
Total...	163	154	44	1	17	17	14	15	7	6	13	12	11	6	9	18	20	11	64	53	74	54	97	77	122	109	110	169	106	144	31	54	902	940	1842

TABLE V.—APPENDIX. (*Local Government Board Table*).

Cases of Infectious Disease Notified during the Year 1906.

NOTIFIABLE DISEASE.	CASES NOTIFIED IN WHOLE BOROUGH.												TOTAL CASES NOTIFIED IN EACH WARD.														NO. OF CASES REMOVED TO HOSPITAL FROM EACH WARD.													
	At all Ages.	At Ages—Years. Under 1.	1 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 35.	35 to 45.	45 to 55.	55 to 65.	65 and upwards.	1. Kemp Town	2. Queen's Park	3. Pier	4. Pavilion	5. Regency	6. West	7. Montpelier	8. St Nicholas	9. St. John	10. Hanover	11. Lewes Road	12. St. Peter	13. Preston Park	14. Preston	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Small Pox ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cholera ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Diphtheria ...	230	2	58	80	37	13	12	21	5	—	2	—	11	18	12	6	9	2	11	15	14	25	38	12	32	25	11	11	12	3	9	2	11	12	14	22	36	10	20	16
Membranous Croup ...	1	—	—	1	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—
Erysipelas ...	100	2	7	4	1	9	10	12	18	17	9	11	8	17	8	2	1	1	9	9	10	6	8	1	4	16	1	1	—	—	—	—	—	—	1	—	1	1	—	—
Scarlet Fever	225	2	62	86	42	14	6	11	1	—	—	1	18	17	16	9	14	6	22	8	19	27	27	5	17	20	11	16	11	8	9	3	14	8	15	27	21	4	5	11
Typhus Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Enteric Fever	22	—	1	2	2	2	1	8	4	1	1	—	4	1	1	2	4	—	3	1	2	2	—	—	—	2	1	—	—	1	4	—	—	—	2	2	—	—	—	1
Relapsing Fever ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Continued Fever ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Puerperal Fever ...	9	—	—	—	—	—	1	6	2	—	—	—	2	—	1	—	1	—	—	—	—	1	3	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Plague ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Totals ...	587	6	128	173	82	38	30	58	30	18	12	12	43	53	39	19	29	9	45	33	45	61	76	18	53	64	24	28	24	12	22	5	25	20	32	51	58	15	25	28

APPENDIX II.

OUTBREAK OF SCARLET FEVER AND SCARLATINAL SORE THROAT DUE TO INFECTED MILK.

In October last, an interim report was made concerning an outbreak of scarlet fever and scarlatinal sore throat, associated with a particular milk supply. The administrative measures which were taken were fortunately successful in preventing extension of the epidemic, and as they were largely independent of statutory powers, it appears desirable to record the circumstances for future guidance.

For the right understanding of the epidemic, it is convenient to summarise certain facts as to the spread of infective diseases. Such diseases are, probably in every instance, due to a specific microbe, the illness being caused by the poisonous products of the growth of the microbe. These products may be manufactured by the microbe in the blood or tissues of the patient, or they may have been prepared in advance by the growth of the microbe in some other substance. In either case, the probability of producing disease and the severity of the attack depends partly on the virulence or poisonous qualities of the microbe to man, partly on the dose of microbes received, and partly on the susceptibility of the patient. In scarlet fever, as well as in other microbic diseases, a difference arises according as the microbe elaborates its poison in the body of the patient, or it is prepared in advance in some other medium. In the former case the incubation period is usually more prolonged before the poison has accumulated sufficiently to overcome the natural resistance of the patient and recognisable symptoms of scarlet fever appear. In the latter case, when the microbe has lived in a suitable substance, it may elaborate in that substance doses of poison large enough to cause recognisable symptoms within a few hours after this substance has been taken into the patient's body. Clinical evidence shows that the microbe of scarlet fever grows readily in milk; and the subsequent distribution of scarlet fever produced by this milk would obviously be much more rapid and extensive than could possibly occur in connection with personal infection, being limited in fact only by the distribution of the milk. Personal infection passes slowly from person to person, infection by milk acts on the same day on a large proportion of the total number consuming the milk in question. There are thus, at least, two differences between epidemics of scarlet fever due to milk infection, and those due to personal infection. (1). In milk epidemics the incubation period in each attack is most often extremely short; and (2) the total epidemic is explosive in character; while in epidemics due to personal infection, the incubation period of each individual attack is somewhat longer, and the total epidemic is much more prolonged. In one instance the epidemic is usually a question of a few days, in the other of weeks or more often of months.

These facts are stated not for their theoretical interest, but because they give certain guiding rules for preventing the spread of scarlet fever, of which the most important are that when cases of scarlet fever and scarlatinal sore throat appear in suddenly increased and rapidly increasing numbers, 1st the milk supply should be promptly and carefully investigated; and 2nd, inasmuch as the delay of a few hours is competent to increase an epidemic to a disastrous extent, action must at once be taken on the best evidence that is available, irrespective of whether that evidence is conclusive as to the cause of the outbreak, so long as it justifies a reasonable apprehension of public danger.

It follows from these rules that in dealing with an outbreak of scarlet fever any procedure involving delay through legal or administrative routine is dangerous to the public safety, and that when this disease is conveyed by milk the community is dependent largely for its control on the fulness and promptitude of the information obtainable from the dairyman. In view of this circumstance, in November, 1905 I issued to the dairymen of Brighton a circular of which a copy is appended to this report, inviting them to keep a constant record of the separate sources of the milk distributed daily on each round; and this recommendation has been largely adopted, and had been so adopted in the dairy in which the present outbreak occurred, thus enabling me immediately to identify the source of the milk supplied to the implicated households.

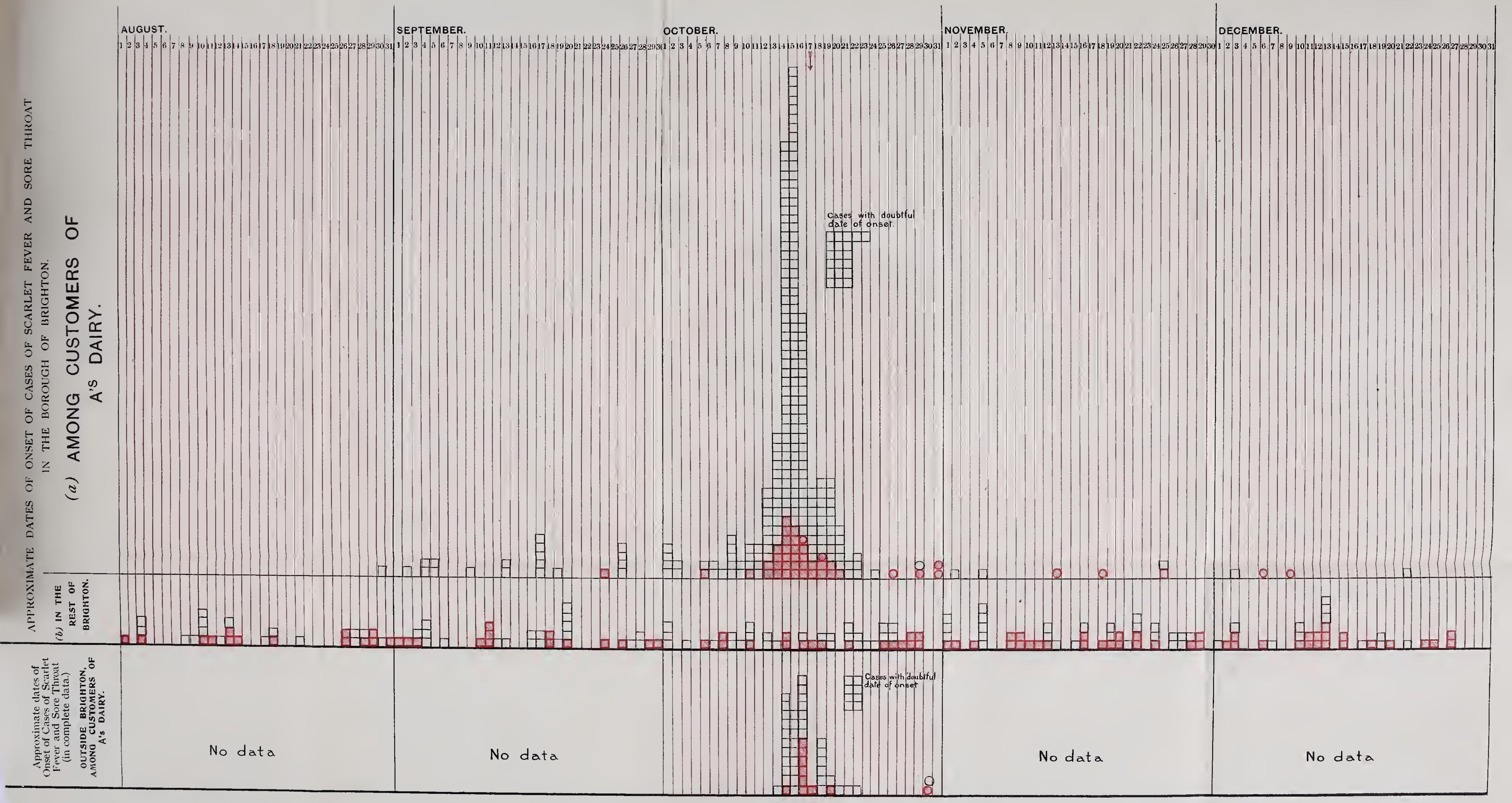
The first two cases of scarlet fever in the present epidemic were notified on October 15th, and on the same evening the inspector's routine report stated, among other things, that the families were supplied with milk from A.'s dairy. Although these two cases were totally insufficient to justify a definite conclusion, my suspicion was aroused by the fact that several "swabs" from suspected diphtheria patients had arrived during the same day; scarlet fever in its early stages presenting symptoms often difficult or impossible to distinguish clinically from diphtheria. I at once telephoned to the dairy, and found that it supplied the milk to each of the houses from which the "swabs" had come, as well as the two houses where scarlet fever had occurred. These facts, although they made me apprehensive, did not justify immediate action in regard to the milk; but from this point, every doctor seen was recommended to advise the temporary boiling of milk among his patients. Next morning (16th October) at 9 a.m., I was informed by a doctor that he had several cases of sore throat in his practice. Particulars of these were obtained; and when the manager of the dairy later in the day called on me by previous appointment, I found that these cases not only had their milk come from the dairy A., but also from B.'s farm, whence the chief part of A.'s milk was received. The facts so far collected, conjoined with those relating to the boarding school Z, detailed on pp. 56 and 58, which had meanwhile come into my possession, justified the conclusion that the outbreak was attributable to this source, and the action which this conclusion demanded. A special meeting of the Sanitary Committee was called for the following morning (17th October). In the meantime, I went over the facts with three representatives of the dairy; and the farmer suspended from his work a milker to whose circumstances suspicion attached. The Committee authorised the payment to the farmer of partial compensation at the rate of 4d. per gallon, in consideration of his destroying all his milk for a week, and this arrangement was extended subsequently for a second week. With this measure the epidemic stopped. The total amount paid to the farmer was £93 10s. 0d.

These facts in themselves show that the epidemic was caused by the milk in question, and it is indeed seldom that a Sanitary Authority has, in such cases, so high a degree of probability on which to base its action; and the satisfactory result of the administrative action of the Sanitary Committee makes further discussion unnecessary so far as concerns this particular outbreak. It must be borne in mind, however, that in controlling the epidemic within two days of the notification of the first cases the measures taken at each stage were only possible through the enlightened co-operation of the dairyman. Had it been necessary to proceed by compulsory powers, some days, and perhaps a week would have elapsed in the routine procedure involved; and, if the infection had persisted, the dimensions of the epidemic would have been enormously larger than the considerable numbers which actually occurred. It is extremely difficult to prevent accidental infection even in a dairy, in which as in Dairy A, the management is good; and it is thus most important for the town to show to the dairyman the utmost consideration consistent with its safety; and even after the event to show on the basis of the facts of the entire epidemic as it eventually became known that the original induction was completely accurate.

Of course this does not imply, that even if fuller knowledge had shewn that all the previous coincidences between the supply of milk from B.'s farm and the cases of scarlet fever, in association with the absence of scarlet fever where this milk was not supplied, and with the striking experience of the Boarding School Z, were accidental and not significant, the action of the Sanitary Committee would thereby have been shewn to be improper. In the case of a rapidly spreading disease it is as important to the community that what is reasonably apprehended to be a source of infection should be stopped, as it is to a family that a suspected case of infection should be isolated; and the action taken must be that which will minimise danger, if the reasonable apprehension is subsequently confirmed. In most epidemics the early evidence is not so clear as in this case, and the fuller information necessary to incriminate a milk supply with certainty must consist of the actual continuance of the epidemic; and it is therefore in such instances inconsistent with public safety to delay action in the face of reasonable apprehension, even though conclusive evidence may not be available. If, however, the co-operation of dairymen, on which the rapid suppression of these dangerous and costly epidemics depends, is to be secured, they can reasonably expect that the fuller facts of the entire epidemic shall be investigated and set forth, in which the evidence as to cases known when administrative action was taken and those subsequently coming to light shall be sifted and stated. In the following pages this has been done.

The accompanying coloured chart (Fig I.) shows for the month of October in which the epidemic occurred, and for the two previous and two subsequent months the number of cases of scarlet fever and of sore throat

APPROXIMATE DATES OF ONSET OF CASES OF SCARLET FEVER AND SORE THROAT IN THE BOROUGH OF BRIGHTON.



which occurred (*a*) among the families supplied with milk from the incriminated dairy, and (*b*) in the rest of the Borough of Brighton. In a lower part of the same chart are shewn the cases of scarlet fever and of sore throat, occurring outside the Borough of Brighton among customers of the dairy in question which came to my knowledge.

TABLE I.

Number of Cases of Scarlet Fever and Sore Throat among Customers of A.'s Dairy in Brighton and in the rest of Brighton.

Number of cases during the month of	A.'s Dairy.*		Rest of Brighton.	
	Scarlet Fever.	Sore Throat.	Scarlet Fever.	Sore Throat.
August	—	1	14	16
September	1	18	14	19
October	38	215	17	27
November	3	3	22	25
December	2	2	20	12
Number of cases from the 8th to 22nd October inclusive	33	203	7	17
Number of cases from the 8th to 22nd October inclusive, not reckoning cases found by visiting homes of customers of A.'s Dairy	33	99	7	17
Number of families supplied with milk from A.'s Dairy or from other sources ...	755		About 28000	

*Including 5 cases of Scarlet Fever among customers of U.'s Dairy (see page 58).

For obvious reasons I cannot supply corresponding data for the remaining parts of the population of these districts outside Brighton. Each primary case of scarlet fever is shewn in Fig. I. by a red square, and of sore throat by a black square; secondary cases, infected from previous patients in the same outbreak being shown by circles. The same facts, classified according to months, are set forth in Table I., so far as relates to the Borough of Brighton. In regard to all these figures, which represent the dates of probable onset of the disease, it must be borne in mind that they cannot be stated within a day or two with actual certainty. In the charts and tables they have been taken at the earliest probable date.

Sources of Information.—Information as to cases was derived from the following sources:—

1. Notifications of cases of scarlet fever.

2. Informal notification by doctors of cases of sore throat, which were not recognisable as scarlet fever. Many doctors consulted me as to puzzling cases under this heading which had occurred among their patients; and by this means, as well as from official sources, I received information as to illness outside Brighton. Notification as to similar cases of sore throat reached me through the following further channels.

3. A certain number of cases were notified as diphtheria, but were found not to have diphtheria-bacilli in their throats, and were associated with the outbreak of scarlet fever.

4. In other cases diphtheria was suspected, and throat-swabs were sent to my official laboratory for examination, with a negative result. The clinical diagnosis of diphtheritic from scarlatinal throats is often very difficult.

5. When the outbreak was fully established, and very numerous messages and letters were being received from both inhabitants and doctors on the subject, the opportunity was taken to make a house-to-house inquiry among the customers of A.'s Dairy.

At this inquiry the date of onset of any cases of sore throat was ascertained, and no mention of milk supply was made. These enquiries were made after the supply from A.'s farms had been stopped; and the opportunity was taken, when suspicion had been already aroused, to state that the then supply of milk was quite safe. 104 cases were ascertained in this way, and precautionary measures were thus rendered practicable, which had they not been taken might have been followed by a considerable crop of secondary cases. There can be little doubt that the information obtained by these different means understates the full magnitude of the epidemic.

Looking back at the facts gradually collected by these various means, it is evident that some cause of scarlet fever and sore throats came into rather sudden and extensive operation during the month of October.

Evidence of Milk Infection.—1. That this was no ordinary spread by personal infection is almost proved by inspection of the chart. It is, as is pointed out above, characteristic of scarlet fever that when spread by personal communication it spreads slowly and gradually. The present outbreak was explosive in character. Such peaks as that in the chart are never seen in the experience of a large town unless a water supply has become infected on a large scale as in enteric fever, or a milk supply as in scarlet fever.

2. That the milk of A.'s dairy caused the chief outbreak is proved by the two parts of the chart relating to Brighton, in inspecting which it must

be remembered that the upper part relates to 755, and the lower to 28,000 households. This is shewn more clearly when the incidence of sickness is stated in proportion to every 100 families, as in the following table :—

TABLE II.

Number of Cases of Scarlet Fever and Sore Throat in Brighton per 100 Families having or not having Milk from A.'s Dairy.

Month.	A.'s Dairy.			Rest of Brighton.		
	Scarlet Fever.	Sore Throat.	Total.	Scarlet Fever.	Sore Throat.	Total.
August	—	0·1	0·10	0·05	0·06	0·11
September	0·1	2·4	2·50	0·05	0·07	0·12
October...	5·0	28·5	33·50	0·06	0·10	0·16
November	0·4	0·4	0·80	0·08	0·09	0·17
December	0·3	0·3	0·60	0·07	0·04	01·1
Special period from the 8th to the 22nd October inclusive...	4·4	26·9	31·3	0·02	0·05	0·07

The differences indicated in this table are set forth graphically in Fig. II. The immense preponderance during October of sore throats and scarlet fever in connection with the incriminated milk supply is very obvious.

FIGURE II.

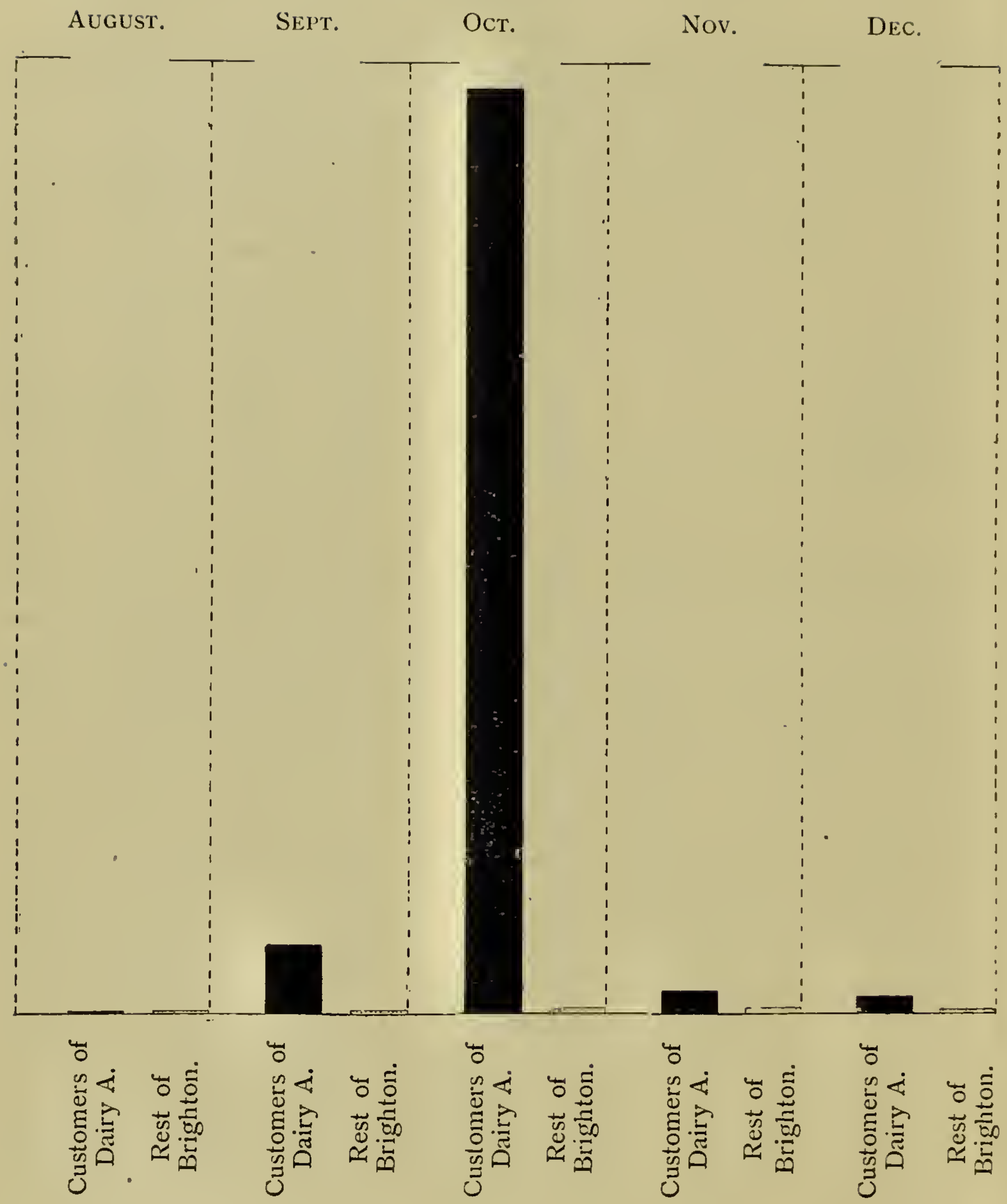


Diagram showing the relative incidence of Scarlet Fever and Scarlatinal Sore Throat in every 100 houses.

(*a*) Among customers of A.'s Dairy.

(*b*) In the rest of Brighton.

3. The social and domestic circumstances of the vast majority of the patients excluded personal infection as a primary cause of the epidemic. Of the total 236 cases of scarlet fever and sore throat occuring in Brighton between the 7th and the 23rd of October among customers of A.'s dairy, 6 of scarlet fever and 23 of sore throat occurred in six boarding schools and small homes connected with schools. The occupants of these establishments live a relatively segregated life, and their movements can be traced with exactitude. Exhaustive enquiries were made, and in not a single instance could the importation of infection be traced, apart from milk. A similar investigation showed that in the private families involved similar personal infection was very improbable. The Chart shows that at the time when the epidemic occurred among the customers of A.'s Dairy, there was for a population of about 125,000, only a small amount of scarlet fever in the rest of the town.

The special circumstances of several cases almost certainly excluded personal infection. Thus attacks occurred in bedridden patients, and in children who had been confined to the house for a fortnight.

4. The geographical distribution of the cases followed the distribution of the milk from A.'s Dairy over two towns and to a boarding school which was outside both towns Complete information as to locality of cases can only be given for Brighton itself. Various parts of Brighton were dotted with cases of illness in fair accordance with the amount of milk distributed by A. in these parts. The incomplete information available for the areas of supply outside Brighton (shewn graphically in the lower part of the Chart) indicates that the distribution of illness in these parts, constituting about a third of the total supply, was similar to that in Brigbton. In arriving at this conclusion, it has to be borne in mind that 104 cases were discovered in Brighton by means of domestic inquiries, which could not be extended beyond the limits of the borough.

5. Control circumstances were furnished by some families. The following five instances may be quoted:—

(1). A family supplied with milk from A.'s Dairy consisted of five adults and one child. Their milk was always boiled, except for the nurse, who would not drink milk except unboiled. The nurse had a severe sore throat which was diagnosed as diphtheria, but proved not to be; all the rest of the family escaped.

(2). A certain family receiving milk from A.'s Dairy made a practice of boiling it. For two days at the time of the epidemic, owing to domestic difficulties, this was intermitted, and on the third day a delicate boy in the family fell ill with severe sore throat.

(3). A Children's Hospital with 58 beds is supplied with milk from A.'s Dairy. All the milk supplied to the patients at this hospital is sterilised, and not a single case of scarlet fever or sore throat occurred among them at the time of the epidemic.

(4). A Boarding School with ten boarders was supplied with A.'s milk which was always boiled. No cases of sore throat without rash, and only one case of scarlet fever occurred at this school. This patient fell ill on the 16th October. On the 15th she was in contact with a day scholar, D. S., from a neighbouring district who then had a sore throat, and who drank A.'s milk unboiled at home. It may be added that on the 19th November D. S. returned to school. A day scholar conversed with her that afternoon, and about 30 hours later developed scarlet fever.

(5). At the boarding school Z, six cases of scarlet fever and four of sore throat occurred among 45 resident pupils. These cases of illness occurred solely among boys on "special milk," which means that they had a pint of milk each day. Not a single case occurred among the boys who only had milk in tea and coffee, and in puddings, etc.

The cumulative force of the evidence that the milk from A.'s Dairy caused the explosive outbreak of illness among the customers of the dairy is irresistible. This being so, it next becomes necessary to examine the milk supply.

Contamination of Milk in Transit.—The milk supplied from A's Dairy might have become contaminated in transit or at its source. The wide distribution of the cases of sore throat and scarlet fever over different and remote districts of Brighton, and outside the borough, showed that many milk rounds were implicated, and a detailed investigation of the family circumstances and health of the 20 men and boys employed by this dairy, and of the employees at the dairy itself, and the depôt connected with it, failed to discover a single case of illness preceding the outbreak.

Dual supply of Milk.—A's Dairy was found to be supplied daily from two sources; about 370 gallons a day from B's Farm just outside the borough, and about 68 gallons from T., about 200 miles distant. Which of these was the source of infection, or were both? At the time when it became my duty to decide this question, I only knew of 17 cases of illness among the customers of A's Dairy, of which 7 were scarlet fever and 10 sore throat. The manager of A's Dairy, as stated above, had complied with the general request made in my official circular to dairymen, and was able to tell me the source of the milk supplied to each of the above 17 patients, and if required to each of the 755 households supplied by the Dairy in Brighton and the 330 households outside Brighton. On the strength of the information respecting these seventeen cases, I decided that the infection was derived from the neighbouring farm of B, with a probability sufficient to demand action.

Evidence that the milk from B.'s Farm was the source of infection.—Of the 17 cases of illness then known, 5 received milk from B., 11 from B. and T. (one in the morning and the other in the afternoon round), and 1 from a dairyman U., who receives part of his milk from B. and part from other sources. Excluding for practical purposes the highly improbable supposition that three separate supplies of milk (B., T. and the independent portion of U.'s supply) were simultaneously supplying infected milk, it is evident that B. is the only factor common to all the cases, and that B. was the *fons et origo mali.* On this evidence B.'s milk supply was promptly stopped, and the epidemic stopped with equal promptitude.

At two later stages I was able to check and confirm this early decision, on the cases of scarlet fever and sore throat notified, though not originating, after the milk supply from B. had been stopped. The three consecutive results are set out in the following table :—

TABLE III.

Distribution of Cases of Scarlet Fever and Sore Throat according to source of Milk Supply.

	MILK SUPPLIES.					TOTAL CASES.
	B. B.	**B. B.** (occasionally **T.**)	**B. T.**	**U.** (*i.e.* **B.** in part).	**T. T.**	
1st List of Cases ...	5	0	11	1	0	17
2nd ,, ,, ,, ...	13	0	15	5	0	33
3rd ,, ,, ,, ...	34	9	54	5	0	102

It will be noted that in each successive series of cases (1) B.'s milk was supplied wherever cases of sickness occurred ; (2) milk from T. was absent in the first series from 35 per cent., and in the second and third series from at least 39 per cent. of the families supplied with and suffering from the effects of contaminated milk. It follows certainly that the milk from T. had no causative relationship to the entire outbreak, and almost certainly that this milk played no part in causing any part of the outbreak.

That the milk from B.'s farm caused the outbreak is shewn by a number of further circumstances, one of which amounts to what in scientific investigations is known as a control experiment. This will be described later as a "control experience."

(1.) *Experience as to definite cases of scarlet fever.*—During the month of October 32 cases of scarlet fever occurred in Brighton among customers of A.'s Dairy, and six further cases infected secondarily by personal infection.

The facts in Table III. were compiled from information from the manager of A.'s Dairy. At first this information was given without any reservation. Subsequently he stated that the above grouping of supplies could not be absolutely depended upon, and that in the rounds supplied with B.'s milk, a small amount of milk from T. may occasionally have been distributed. The substantial accuracy of the information originally supplied by him is, however, proved not only by the preceding facts, but also by those contained in the next paragraph.

Six further cases occurred in the boarding school Z. The facts as to source of milk supply can be given with exactitude for these 38 primary cases of scarlet fever, and they are set forth in tabular form as follows :—

Milk from B.'s Farm.
(370 gallons daily).

- Direct to Boarding School Z., outside Brighton, *6 cases of scarlet fever.*
- To A.'s Dairy about 370 gallons a day distributed in Brighton and elsewhere. (Two-thirds in Brighton).

Brighton Distribution.

- B.'s milk only
  - To dairyman U. *5 cases of scarlet fever.*
  - To families having *13 cases of scarlet fever.*
- B.'s milk and occasionally milk from T. to families having *3 cases of scarlet fever.*
- B's milk mixed with milk from T. to families having *11 cases of scarlet fever.*

Milk from T.
(68 gallons daily).

(2). *Experience as to cases of sore throat.*—The information at my disposal does not enable me to give corresponding information relating to the 215 cases of sore throat occurring in Brighton during October among customers of A.'s Dairy. It has been possible to obtain it for 102 cases of illness with the consistent result shewn in Table III.

(3). *The experience of the Dairy U.* confirms the same conclusion. This dairyman supplied 150 gallons of milk daily to his customers, and at the time of the epidemic was purchasing from A.'s Dairy 10 to 25 gallons of milk daily. This milk came from B.'s farm and was unmixed with milk from T. It was distributed in a special localised district, and no cases of scarlet fever occurred among U.'s customers except in this localised district, in which five cases occurred simultaneously with the cases among the direct customers of A.'s Dairy. There were no other cases of scarlet fever in this localised district at the time.

(4). *The experience of the Boarding School Z.* gives a conclusive "control experience." This school has 45 resident pupils, among whom 6 cases of scarlet fever and 4 of sore throat occurred from the 13th to the 19th of October inclusive. The first patient was a boy with a sore throat, who was strictly isolated from the 13th to the 15th of October. On the latter day a second boy fell ill with sore throat, on the 16th four boys failed with scarlet fever and one with sore throat, on the 17th one boy failed with scarlet fever, and on the 19th one case of scarlet fever and one of sore throat occurred. The first patient had not been exposed to any outside source of personal infection, and the isolation arrangements were so good as to render it improbable that this first patient could have infected the nine subsequent patients. The ten patients were distributed over three dormitories, and the patient who fell ill next after the first slept in a separate dormitory. After the first few days, these ten patients were all transferred to a special ward in our Borough Isolation Hospital, where they were all nursed together. To imagine that ten patients would thus rapidly be infected from one another in an admirably organised boarding school, under daily medical supervision and control, is contrary to everything known about the conditions of spread of scarlet fever. That such an explanation would be erroneous is further indicated by the contemporaneous events in the neighbouring borough, including six other boarding schools, which are shewn in the Chart. During the same days on which the boys at the school Z. were falling ill, numerous similar cases were beginning in many different districts, all having one factor, and one factor only in common, that they were supplied with milk from A.'s Dairy or B.'s Farm.

The relationship of the school Z. to this Dairy was peculiar. The head master of the school, in his anxiety to secure the best possible milk supply for his pupils, had a rigid agreement that he should be supplied with milk in a sealed and locked 4 gallon can, this milk being always put into this can at the Farm B., and never mixed with any other milk at the depôt connected with A.'s Dairy. There can be no doubt that this agreement was never in default, and this particular arrangement therefore forms conclusive evidence, if further evidence were required, that the infectivity of the milk of A.'s Dairy originated on B.'s Farm. The special incidence of illness among boys at this school having an extra milk diet has already been stated (page 56).

Circumstances of B.'s Farm.—It has been conclusively shown that the milk supplied by A.'s Dairy was not contaminated by its auxiliary supply from T., but on the way from B.'s Farm to the dairy depôt or actually on the farm. The contamination of the milk in transit was extremely improbable for all the churns, and impracticable so far as the supply to Z. was concerned. The carter was examined, with a negative result, and there was no illness in his family.

B.'s Dairy Farm is kept under conditions as to cleanliness and sanitary supervision which are much above the average. Each milker is under an obligation to report any suspicious case of illness. At the time of the outbreak 148 cows were kept. These were milked by 18 men in the morning, and 10 in the afternoon.

How did the Milk on B.'s Farm become infected?—Milk is known to produce scarlet fever when those suffering from this disease or possibly those coming from infected households are brought into close contact with it, as in milking. It is also believed that a certain disease of cows, the "Hendon disease," may sometimes cause scarlet fever in human beings consuming unboiled milk from the affected cows. These two lines of investigation were taken up. It should be stated at this point that the farmer gave every facility for inspection by myself or my deputy, of the cowsheds and of all employees and of the cows by the veterinary surgeon of the Corporation. This is specially mentioned, because as I have already pointed out, had we been obliged to wait the adoption of the legal procedure under sec. 4 of the Infectious Disease Prevention Act, considerable delay in the investigations at the farm would have arisen. In actual fact I was previously familiar with the cowsheds and cottages on this farm, which are much more sanitary and better kept than the majority of similar premises on farms.

(1). As regards employees and their families, these were all examined on several occasions by several doctors without finding definite evidence of illness. Two cowmen, father and son, were suspected to be desquamating, but I was unable on examining the men to confirm the suspicion, and apparently they had not been ill. The child of another cowman fell ill during the epidemic with supposed scarlet fever and was removed to an isolation hospital. Whether this child was infected from the milk, or her father had previously had an unrecognisable attack of scarlet fever could not be certainly stated. The child of a third cowman P., near the end of July, was removed from a cottage on the farm to an isolation hospital suffering from supposed scarlet fever. Two or three weeks later while in hospital she developed a very severe attack of scarlet fever. It is possible that the first attack was mistakenly thought to be scarlet fever, and that she caught this disease in hospital; it is equally possible that the second attack was a relapse. At the time of writing I have under my care a case of such relapse of scarlet fever, in which the relapse is much more severe and complicated than the undoubted first attack of scarlet fever for which the patient was admitted to hospital.

At the time when the milk at B's Farm became infected, the preceding child was still in hospital. She had been visited weekly by her father, who had been back at his milking work for several weeks at the time of the milk-produced epidemic. There is every reason to think that he could not have brought home infection from the hospital, and apparently he himself had remained well. On September 2nd, another child of this cowman became feverish, after visiting the hospital earlier in the same day. A doctor saw the child the same evening and again the next day. The possibility of scarlet fever was canvassed, and after some hesitation excluded. During the three weeks preceding the milk-produced epidemic, this child played in the cowsheds on different occasions. It should be added that on December 2nd, this child went to the village of S to visit his sister, who by this time had left the hospital, and on the 4th of December he fell ill with scarlet fever.

From the preceding sketch of facts, it is evident that one cannot with any certainty state a definite human medium by which the milk became infected. The evidence stops at the stage of suspicion and surmise, and does not throw any blame on anyone concerned; though I think we may draw the moral that cowmen's children should not be allowed to visit, and that their homes should not be near cowsheds.

(2). As regards cows, the veterinary inspector reported on the 18th October, that a cow had a pustule on its udder, but that that this was not, in his opinion, of the same nature as those present in the "Hendon disease." Unfortunately in the rush of work, the opportunity of obtaining cultures from this pustule was lost. The cows were also seen by the superintendent of the Brighton Public Abattoir, and he reported that one cow which with seven others had come from M. C., on October 6th, had an abscess on the udder, with a scab over it. This is the same case as the one reported by the veterinary inspector. Another cow was found to have a small abscess of the udder. This was slaughtered on the initiative of the farmer. A hairpin had been swallowed, penetrated through the stomach, and produced an abscess between the diaphragm and the stomach. Two further cows when examined on 29th October by a veterinary surgeon, acting for the Dairy, were found to have abscesses of the udder. Meanwhile the cow first-named had got well.

The preceding summary of the main circumstances of the employees and cows does not lead to any certain conclusion as to the source of the infection. If the infection were of human origin this is not surprising. The cases of illness undoubtedly due to this milk varied greatly in character. In some there was only slight sore throat; in others a very severe tonsillitis with acute adenitis; in others a well developed scarlet fever (see Chart). Some of the cases of scarlet fever only desquamated partially; while on the other hand some of the cases having only sore throat and no rash had considerable desquamation. In one case the sore throat was followed by rheumatic fever and pneumonia. In another patient (fatal), who at the time she became infected was suffering from gastric ulcer and therefore living chiefly on milk, the symptoms resembled general septicæmia, pneumonia supervening. In another patient (fatal), so much vomiting followed the sore throat that the patient was suspected to have a perforated gastric ulcer, though this was not so.* If then the person infecting the milk in the cowshed was only slightly ill, he might have infected the milk without his illness being recognised. Milk is an excellent medium for the growth of scarlatinal germs. A glance at the chart and at Fig. 1, shews that probably the milk of A.'s Dairy was infected at intervals to a less extent during the four weeks preceding the great outbreak.

An attempt was made, without success, to trace the milk supplied to the school Z. to a particular cowman, but without success. The foreman at the farm always poured the milk for this school into its special locked can, and no special cowman always milked for this particular supply. The milk milked by the cowman P, was mixed with the rest of the milk before leaving the farm.

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* I have not thought it necessary to enter into further details as to the clinical features of the cases in the epidemic. It may be mentioned that cases of scarlet fever and of sore throat were treated in the scarlatinal wards of our isolation hospital with scarlatinal patients unconnected with this outbreak. No case of cross-infection occurred. Some of the cases lend colour to the supposition that a dual poison was working, and the facts previously stated as to cows' udders may support this view. All the unusual complications present are, however, occasionally found in epidemics of scarlet fever due to personal infection, and the presence or absence of rash in scarlatinal sore throats is probably in the main a question of dosage of infection. One reason why scarlet fever has not been able to be brought more completely under administrative control is the non-recognition of the scarlatinal nature of sore throats in persons associated with cases of scarlet fever.

The main conclusions from these facts are as follows :—

1. The epidemic was due to milk from B.'s Farm.
2. Its immediate control was due to the prompt action of the Sanitary Committee, and the active and intelligent co-operation of the dairymen and the farmer.
3. The expense and loss entailed both on the town and on the dairy and farmer by the measures that were taken, were far less than would have resulted from the continued supply of infected milk.

I may add that the whole cause of the epidemic illustrated strikingly the advantage to public administration of voluntary co-operation between officials and the sections of the community whose operations have a bearing on public health. This is only one added to several instances given in previous reports, in which satisfactory results have followed on the encouragement given by the Sanitary Committee to such co-operation.

Copy of Circular letter sent to Dairymen in 1905.

THE IMPORTANCE OF BEING ABLE TO IDENTIFY THE EXACT SOURCE OF MILK SUPPLY.

Public Health Department,
Town Hall,
Brighton,
November 24th, 1905.

DEAR SIR,

Circumstances have drawn my attention to the difficulty which arises in identifying the original source of milk distributed in the town, especially in the case of large dairies obtaining milk from a number of different farms. It may be within your knowledge that occasionally, though rarely in the experience of Brighton, infectious diseases such as Scarlet Fever, Diphtheria and Typhoid Fever, have been spread by milk supplied. In order to enable the Sanitary Authority to ascertain the true facts in any case of suspicion, dairymen are under a legal obligation (Section 55 of the Brighton Improvement Act, 1884) to furnish when required a full and complete list of their customers to the Medical Officer of Health. It is obvious, however, that if inquiries were made at each house named on a list thus furnished, some risk would arise of damaging the business of the dairyman, and the above powers have therefore been seldom utilised. When utilised, or even if the necessary information were obtained otherwise, the result would, when infection is traced to a given milk supply, be that the entire supply by a given dairyman or Company would need to be stopped; whereas if the method which I am about to suggest were universally adopted, it would at the worst scarcely ever be necessary to stop the milk from more than one farm, and this could be done with the utmost privacy, without any injury to the trade.

The method to which I allude is one already used at my suggestion by some dairymen in the town, and one which has been found to be of great utility in the interest of the Public Health, and has obviated serious expense and loss of custom for the dairymen who have employed it.

The method consists in ear-marking the source of the milk distributed in each round by each milk carrier, and recording the facts day by day. It implies also that the milk from different farms will not be mixed. When this method has been adopted it is easy to place one's finger at once on a source of infection, to visit the farm or other place in which the infection has originated, and by this means to prevent more than a minimum amount of disorganisation of business, as well as a minimum amount of infection.

I venture to ask your co-operation in introducing into your business the above method of booking each day the source from which the milk in each milk-round is derived, and thus insuring your business against disturbance, as well as co-operating in preventing the introduction of infection into the town.

Believe me,

Yours faithfully,

ARTHUR NEWSHOLME, M.D.,
Medical Officer of Health.

APPENDIX III.

THE LOCAL ADMINISTRATION OF ACTS RELATING TO FACTORIES, WORKSHOPS, WORKPLACES, BAKEHOUSES, OUTWORKERS, SHOP HOURS, SHOP SEATS AND THE EMPLOYMENT OF CHILDREN.

In addition to his ordinary duties as an Inspector under the Public Health Acts, Inspector Mills was specially appointed in 1893

to carry out the provisions of	The Factory and Workshops Act since repealed	1891
	and The Shop Hours Act	1892
Since then the following new Acts have each added to his multifarious duties.	The Shop Hours Act	1895
	The Factory and Workshop Act	1895
	The Seats for Shop Assistants Act ...	1899
	The Factory and Workshop Act	1901
	The Employment of Children Act... ...	1903
	The Prevention of Cruelty to Children Act	1904
	The Shop Hours Act	1904

These Acts all have some bearing upon each other, and many business premises are affected by most of them. It is not, therefore, surprising that employers are sometimes confused by their complex provisions.

For instance, Factories and Workshops are divided into several classes with differing sets of regulations for each class, some portion of their administration being under H.M. Inspectors of Factories and some under the Local Authority. Again, the hours during which persons under the age of 18 years may work are regulated by three separate Acts of Parliament, the number of hours and times differing in each Act and for different occupations. Some employers employ persons coming under each Act.

Despite all the above Acts, the well-founded complaints that have been received, and which are dealt with in the section relating to shops on page 67, shew that there is still need for further legislation to bring the conditions under which female shop assistants work reasonably into line with those for women in factories and workshops.

The differences may be broadly indicated as follow :—

In a Workshop a *woman* can only be employed for a stated number of hours daily, and with a definite time for meals ; and the room wherein she works must be efficiently warmed, ventilated, cleansed, must have means of escape in case of fire, and not be overcrowded.

In a Shop a *woman* may still be employed for any number of hours her employer chooses, with no definite times for meals and no special regulations as to the unhealthy or dangerous conditions under which she may be compelled to work.

The Orders made by the Secretary of State during 1906, under the Act of 1901, have not added to our local work under the Act as some previous orders have done; but a memorandum from the Home Secretary, dealt with on page 66, will necessitate increased work.

The detailed statement of our local work in Factories and Workshops is given in the tabulated form directed by the Local Government Board on page 73.

Inspector Mills has endeavoured during the past year to supervise as far as practicable the administration of the various Acts previously enumerated, but it has been impossible to work any one of them as thoroughly as is desirable with only one inspector.

The ordinary inspections under the Public Health Acts, &c., of the sanitary arrangements are made concurrently with most of the inspections of Shops and Workshops.

3,226 visits were made by Inspector Mills for the purpose of carrying out the provisions of the above Acts. Of these 2,130 were for the purpose of inspection and 1,096 for serving notices, looking up works, &c.

During the year the following alterations have been made in the Registers:—

Factories closed 8, new factories added 9.
Workshops ,, 78, ,, workshops ,, 140.
Workplaces ,, — ,, workplaces ,, 7.
Shops ,, — ,, shops ,, 282.

The large number of alterations in workshops are principally due to the removal of outworkers.

Of 2,350 { Factories, Workshops, Workplaces, } 30 night and 868 day inspections were made.

Of 4,550 { Shops and Premises where children are employed, } 53 night and 1,232 day inspections were made.

Night inspections were all made between 9.0 p.m. and 6.0 a.m.

HOMEWORKERS.

In October a circular letter was received from the Secretary of State, together with a copy of the returns presented to the House of Commons as to the administration by Local Authorities of those sections of the Factory Act affecting homeworkers.

The following extracts from the Home Secretary's letter will give an idea of what is required :—

> "The Secretary of State would most earnestly press upon the Council the importance, in the interests of the large class of workers engaged in home-work, of a thorough administration of these provisions. Outworkers form the weakest section of the labouring class, and the class in respect of which the State from the nature of the circumstances is least able by its Officers to control the conditions of work. If these conditions are to be effectively controlled, the local authorities, to whom Parliament has entrusted the duty of supervising them, must make a full use of their powers. The Secretary of State may remind the Council that in addition to the ordinary sanitary inspection under the Public Health Act of outworkers' dwellings, which is even more necessary in their case than in the case of ordinary dwellings, the following special obligations are placed on the Council."

Then follows a list of the duties of local authorities, with particulars of the manner in which they should be carried out, and suggestions as to how the local inspector may help H.M. Inspectors in putting down the evils of "sweating."

The Secretary of State adds that he would

> "Gladly welcome the co-operation of the local authority and its officers in calling the attention of the Factory Inspectors to any apparent breach of the Truck Acts or 'Particulars' section in the case of outworkers in their district. . . . He would also call the special attention of the Council to their powers under Section 108, which was introduced into the Factory Act with the object of preventing industrial work being carried on in dwellings under less wholesome conditions than are required by law in workshops, and thus dealing with some of the worst features of what is known as the 'sweating' system."

Then follow notes on the sections of the Acts referred to in the previous paragraph, and a long memorandum as to the preparation of the statistics which the Medical Officer of Health is directed to furnish.

A return presented to Parliament shews the importance of Brighton as an industrial centre for the county. Out of a total of 24 districts in Sussex from which reports were received, giving details of 1,047 out-workers, 803 belonged to Brighton.

During 1906

106 Lists from Brighton firms gave 731 names } Total 814
8 „ „ other districts „ 83 „ }
2 „ „ were sent to other districts giving 9 names.

Other particulars as to inspection of outworkers' premises, &c., are given in Table 3 on page 74.

BAKEHOUSES.

The Act requires that these shall all be inspected at least twice in each year; owing to pressure of other work this has not been fully carried out for the past three years.

332 inspections were made during 1906, and 132 breaches of the special requirements for bakehouses were dealt with.

Three applications for certificates to use underground bakehouses have been made; one has been granted, the required alterations to another are in hand, nothing has yet been done to the remaining one.

SHOP HOURS ACT, 1892-5.

During the year, several complaints of excessive work and insufficient time for meals have been received. Some of the complaints were made by women, but as the Act only protects young persons under the age of 18 years, nothing could be done for them. Of the complaints investigated respecting young persons, none exceeded the 74 hours work per week allowed, though some employees were harshly dealt with. The special difficulty under this Act is that the number of hours worked can only be satisfactorily proved by the evidence of the person employed, which is often difficult to obtain. To remedy this evil, so long as an aggregate number of weekly hours of work is fixed, it ought to be compulsory on every employer to enter in a time book the time of arrival and of leaving. There is no enactment enabling this condition to be imposed.

It is even more necessary that the hours during which female shop assistants may work should be defined, and that stated intervals for meals should be enforced. If it be found necessary to retain a certain elasticity of hours during sale times, &c., this could be met by having a daily instead of a weekly aggregate of hours with restrictions as to meal times.

In 10 cases of complaint Inspector Mills obtained signed statements from the young persons affected as to the number of hours they had worked on each day of the preceding week, and in these the number of hours worked varied from 71 to 73 hours.

Two complaints may be taken as examples. Mr. X. on special days works his employees from 8.30 a.m. to 11.0 p.m. with two intervals of 15 minutes each for meals. Mr. Y. employs 20 to 30 young persons who work from 9.0 a.m. to 9.30 or 10.0 p.m., allowing 45 minutes for dinner and 20 minutes for tea. In both these instances the employers complied with the law for young persons under 18 years by giving them a half day's holiday in the same week or otherwise reducing their hours during the rest of the week so as to bring the week's aggregate under the 74 hours allowed.

Briefly the differences between workshops and shops as to hours and meal times for women over 18 years are as follows :—

Factories and Workshops.	*Shops.*
Women may only work 60 hours per week, with a minimum interval between meals of 5 hours and a fixed time daily of 1½ hours for meals.	For women over 18 years, no restrictions.

906 Visits were made to shops for the purpose of this and other Acts; 246 were found not having the required Abstract shewn, and a copy of the Abstracts of the Acts was subsequently served on the occupiers.

SEATS FOR SHOP ASSISTANTS ACT.

52 shops having more than three female assistants were inspected: 49 were found to have provided the necessary seats; 3 were without seats, these being subsequently provided. Employers fully recognise that the law compels them to provide seats but permitting the use of them is a different matter.

In a few shops the employees are stated not to feel at liberty to use the seats, because their employers whilst not actually forbidding their use contrive that they shall not be used. This spirit is shewn in a reply made by an exceptional employer to me, when spoken to in respect of his failure to provide seats. "I will provide them if you wish, but my girls would never have any time to sit down." It may be hoped that public opinion will induce these exceptional employers to do what is already voluntarily done in other shops, that is to allow each girl in turn out of a stated number a certain time for resting. If the consideration for their employees shewn by the majority of employers were more general such an Act would not be necessary.

EMPLOYMENT OF CHILDREN'S ACT AND BYE-LAWS UNDER IT.

The above Act and the Bye-Laws under it have during the past year been carried out under considerable difficulties, owing to the complexity of the subject, the share of three departments in the work, and the insufficiency of time consistent with the discharge of other duties. For the information enabling action to be taken we are dependent chiefly on returns received from the schools. The arrangement at first made was that Inspector Mills was to be responsible solely for visiting children employed in shops and workshops, as this would fit in with his visits under the Shops and Workshops Acts. This left two portions of the Bye-Laws for inspection by others:—

1.—Visits to inspect the conditions under which children are employed in private houses as house-boys, messengers, &c.

2.—Inspection of street traders.

In actual practice Inspector Mills found it necessary to visit every boy or girl employed in a private house in order to leave copies of the bye-laws on the employers. This leaves street-trading, which the police have supervised.

Lists of children attending the elementary schools in the Borough who are employed out of school hours were received in May from the Clerk to the Education Committee, the information having been supplied by the teachers of elementary schools. To ensure uniformity, revised forms have been prepared and returns on these forms are now supplied to me once during each school term, thus enabling us to investigate the cases reported on the school lists, and ascertain whether any of the children employed out of school hours are employed under conditions contrary to the above Bye-laws. It will be noted therefore that the completeness of the investigations in this matter depends in the first instance chiefly on the accuracy and completeness of the lists thus supplied.

The first lists contained the names of 811 children, 644 of whom were affected by those portions of the Act and Bye-laws coming under Inspector Mills' supervision; the remaining 167 were either street traders or employed outside the Borough.

The 644 enumerated above do not comprise all the children employed. Inspector Mills found during his inspections many others whose names had not been given on the school lists, and he is of opinion that there are at least 800 children employed who are between 10 and 14 years of age, exclusive of those employed as street traders.

An analysis of the lists gives the following particulars:—

Boys.	*Girls.*
224 aged 13 years.	21 aged 13 years.
169 ,, 12 ,,	25 ,, 12 ,,
82 ,, 11 ,,	13 ,, 11 ,,
47 ,, 10 ,,	12 ,, 10 ,,
*21 under 10 ,,	*18 under 10 ,,
12 age not stated.	
555	89

The following table gives the occupations of the 644 children, and the Bye-law which more particularly affects them.

Boys.

Bye-law 4 ...	Sale and delivery of newspapers	109
	,, ,, ,, milk ...	76
	Housework and other occupations	95
Bye-law 5 ...	Errand boys for bakers ...	43
	,, ,, ,, butchers ...	30
	,, ,, ,, grocers ...	45
	,, ,, ,, greengrocers	47
	,, ,, ,, other trades	102
Bye-law 2	Barbers' shops, Theatres, &c.	8 (all illegal)
		555

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* It should be noted that the 39 whose ages were given as under 10 years of age were all illegally employed.

Girls.

Bye-laws 4 & 5	Housework	26
	Minding babies...	27
	Errands	36
		89

According to the particulars given in the lists, 312 offences were being committed against the various sections of the Act and Bye-laws, not including street traders.

39	offences against	Bye-law 1
8	,, ,,	,, 2
101	,, ,,	,, 4
130	,, ,,	,, 5
34	,, ,,	Section 3 of the Act.

Subsequent investigation by Inspector Mills reduced this number very considerably, though it revealed some serious cases of excessive employment.

A large number of the offences, though contrary to the strict letter of the law, are so relatively trivial as to render immediate legal action undesirable. Thus a large number of children are employed to run an errand or mind a baby between 12.0 and 1.0 p.m., or are employed for errands and housework from 7.30 a.m. to 8.30 a.m., with breakfast. These are offences against Bye-laws 4 and 5. The seriousness of these cases depends upon whether the breach of the Bye-law interferes with the child's school attendance, or with proper rest and time for meals before and between school hours.

In making these investigations 210 day visits were made and 53 visits between 9 p.m. and 6.0 a.m. In 62 instances the children were found at work contrary to the law. Some of the employers were cautioned by Inspector Mills and the following offences were reported by him to the Chief Constable:—

13	offences against	Bye-law 2.
12	,, ,,	,, 5.
1	,, ,,	,, 1.
16	,, ,,	Section 3 of the Act.

With two exceptions a written warning was sent to the employer by the Chief Constable in each of the above cases. Two prosecutions were taken, one under Bye-law 1 for employing a boy 9 years of age from 8 a.m. till 9.30 p.m ; one under Section 3 for employing a boy after 9 p.m. This boy had worked from 8.0 a.m. to 11 p.m. The defendants pleaded guilty, and the summonses were allowed to be withdrawn on payment of costs. The Chief Constable at the same time giving a general warning as to future offences. In two instances, employers have been cautioned in respect of the section which prohibits the employment of a child to lift carry or move anything so heavy as to be likely to cause injury to the child.

Street Trading.—As already stated the portion of the bye-laws regulating street trading is enforced by the police, the Chief Constable reporting on their administration. Inspector Mills informs me that many children licensed as street traders are employed in connection with shops, and employers are perplexed as to what constitutes a street trader. This turns on the definition in the bye-laws of the terms "hawking" and "sale or delivery," the former word appearing to mean soliciting persons in a public place to purchase, while the latter appears to relate to the delivery of articles already ordered, or to articles sold when requested in the course of delivery. It is, in my opinion, most desirable to avoid the registration of boys for street trading so far as this can possibly be done, though provided that the applicants comply with the provisions of the Act and Bye-laws, the Town Council cannot refuse any license to a true street "hawker," except on the ground of physical or mental deficiency or the absence of consent of the applicants' parent or guardian to their being so employed. Apart from street trading' boys can only be employed for from 3 to 4 hours daily, though they may be employed between the ages of 10 and 12. If registered as street traders, boys over 12 can be employed for any number of hours, between the hours of 6 a.m. and 9 p.m., consistent with school attendance. There can be little doubt that parents and employers desirous of being on the safe side have had boys registered as street traders, who should work under the bye-laws not relating to street traders.

Street trading has a pernicious effect on the boys engaged in it. There is first the evil physical influence of excessive fatigue during the years of growth. This is much more marked for street trading than for employment under the other bye-laws of this Act. The ulterior consequences are even more serious. The children employed as street traders are brought into contact with the adult class of street traders, their moral standard is endangered, and they are apt to drift into the large class of those who never have any other than casual employment throughout their lives. It is a great pity that under the present law street trading by boys cannot be entirely forbidden.

PREVENTION OF CRUELTY TO CHILDREN ACT.

Inspector Mills' duties under this Act (formerly carried out by H.M. Inspector of Factories) are to see that all restrictions and conditions endorsed upon the licenses granted by the Magistrates to permit children to perform in places of public entertainment are properly complied with, to protect the general welfare of these children, especially against illtreatment, excessive exertion, and dangerous performances; to see that their education is not neglected, and that they are in charge of a Matron or parents whilst they are in or going to and from the place of entertainment.

Generally speaking the only conditions endorsed on the Licenses are as to the hours during which the children may perform.

62 Children were licensed during 1906, 40 Girls and 22 Boys:

35 were employed as singers and dancers.
8 ,, ,, musicians.
8 ,, ,, actors and actresses.
1 ,, ,, acrobat.

It is very satisfactory to note the decrease in child acrobats, 18 having been licensed in 1904, 7 in 1905 and only 1 in 1906.

28 night inspections were made and 6 day visits. The conditions of the licences were fairly well complied with, the exception being a tendency to keep them on the stage beyond their specified times and to neglect their education. In these cases the managers have been seen early in the week and cautioned, and the conditions have then been strictly complied with.

One bad instance of overwork was reported to the Chief Constable who wrote and warned the Manager. 14 children were licensed until 10.30 p.m. but did not leave the theatre on the night of Inspector Mills' first visit till 11.15 p.m. The night after they had been warned they left at 11.0. Inspector Mills then saw the persons in charge of the children and warned them that the license might be rescinded, and arrangements were made to take the children out of the last scene. The governess subsequently informed him that this enabled her to get the children home and in bed nearly an hour earlier.

SHOP HOURS ACT, 1904.

APPLICATION FOR AN EARLY CLOSING ORDER BY HAIRDRESSERS, &c.

The application necessitated a special investigation by Inspector Mills for the purpose of compiling the register of shops affected by the Order. 140 shops were entered on the register.

Voting papers were prepared by the Town Clerk and sent to all of these by post: 134 papers were returned, of which 9 were invalid, and of the remainder

95 were in favour of the Order, and
30 were against the Order.

As this gave the requisite majority, the Council made the Order and sent it to the Secretary of State for confirmation. Action is being taken in the Law Courts against the Order, on behalf of the minority.

The following facts may be given—

There are 270 assistants employed. The hours during which the saloons at present generally keep open vary from 65 to between 80 and 90 hours per week. A considerable number keep open very late on Friday and Saturday nights, and open for several hours on Sunday mornings.

In the interests of the health of the employees, the proposed half-holiday on Thursdays is most desirable; and it is a pity that closing on Sundays is not also included.

1906.

FACTORIES, WORKSHOPS, LAUNDRIES, WORKPLACES AND HOMEWORK.

1.—*Inspection. Including Inspections made by Sanitary Inspectors or Inspectors of Nuisances.*

Premises. (1)	Number of Inspections. (2)	Number of Written Notices. (3)	Number of Prosecutions. (4)
Factories ... ... (Including Factory Laundries.)	67	7	—
Workshops... ... ... (Including Workshop Laundries).	796	92	—
Workplaces ... ... (Other than Outworkers' premises included in Part 3 of this Report).	35	2	—
Total	898	101	—

2.—*Defects found.*

Particulars. (1)	Number of Defects. Found. (2)	Remedied. (3)	Referred to H.M. Inspector. (4)	Number of Prosecutions. (5)
*Nuisances under the Public Health Acts:—**				
Want of cleanliness	35	34	—	—
Want of ventilation	17	15	—	—
Overcrowding	9	8	—	—
Want of drainage of floors	6	6	—	—
Other nuisances...	28	18	—	—
†Sanitary accommodation — insufficient ...	3	2	—	—
†Sanitary accommodation — unsuitable or defective	46	44	—	—
†Sanitary accommodation — not separate for sexes	4	4	—	—
Offences under the Factory and Workshop Act:—				
Illegal occupation of underground bakehouse (S. 101)	3	1	—	—
Breach of special sanitary requirements for bakehouses (SS. 97 to 100)	132	127	—	—
Other offences ... ... (Excluding offences relating to outwork which are included in Part 3 of this Report.)	—	—	—	—
Total	283	259	—	—

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* Including those specified in sections 2, 3, 7 and 8, of the Factory and Workshop Act as remediable under the Public Health Acts.

† Sec. 22 of the Public Health Acts Amendment Act is in force in Brighton.

1906.

3.—*Home Work.*

Nature of Work.*	Outworkers' Lists, Section 107.								Number of Inspections of Outworkers' premises.	Outwork in Unwholesome Premises, Section 108.			Outwork in Infected Premises, Sections 109, 110.		
	Lists received from Employers.				Numbers of Addresses of Outworkers received from other Councils.	Numbers of Addresses of Outworkers forwarded to other Councils.	Prosecutions.			In-stances.	Notices served.	Prose-cutions.	In-stances.	Orders made (S. 110)	Prose-cutions (S. 109, 110).
	Twice in the year.		Once in the year.				Failing to keep or permit inspection of lists.	Failing to send lists.							
	Lists.	Out-workers.	Lists.	Out-workers.											
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Wearing Apparel— (1) Making, &c.	94	674	4	23	83	8	—	—	163	—	—	—	10	1	—
Furniture and Upholstery	8	34	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Trades ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	102	708	4	23	83	8	-	—	163	—	—	—	10	1	—

*Where an occupier gives out work of more than one class, each class is separately enumerated.

4.—*Registered Workshops.*

Workshops on the register (s. 131) at the end of the year. (1)	Number. (2)
Making of wearing apparel	816
Bakehouses	192
Laundries	160
Furnishing Trades	134
Building Trades	120
Other Trades	293
Total number of workshops on Register	1715

5.—*Other matters.*

Class (1)		Number (2)
Matters notified to H.M. Inspector of Factories :—		
Failure to affix Abstract of the Factory and Workshop Act (S. 133)		23
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Act (S. 5)	Notified by H.M.Inspector	7
	Reports (of action taken) sent to H M.Inspector	7
Other		3
Underground Bakehouses (S. 101) :—		
Certificates granted during the year		1
In use at the end of the year		114

AN ACCOUNT OF THE SYSTEM OF VOLUNTARY NOTIFICATION OF PHTHISIS IN BRIGHTON, AND OF THE TREATMENT AND TRAINING OF PATIENTS IN ITS ISOLATION HOSPITAL.[1]

By Arthur Newsholme, M.D.,
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and

H. C. Lecky, M.A., B.M.,
Resident Medical Officer of the Borough Sanatorium, and Deputy Medical Officer of Health.

I. Development of the Work.

In January, 1899, a letter was sent to the medical officers of the public institutions and to the parochial medical officers, inviting their voluntary co-operation in notifying cases of phthisis, and a copy of instructions was enclosed, which it was proposed to leave with each patient. Sixty-eight cases of phthisis were notified in the next seven months, no fees being paid for these notifications. In August of the same year the Town Council agreed to pay for the notifications on the same basis as for the diseases notified under the Infectious Diseases (Notification) Act. At the same time a letter was sent to those doctors who were partly engaged in practice among the poor, pointing out that the notifications frequently secured the removal of insanitary house conditions in phthisical houses, and that in each case advice would be given as to the simple precautionary measures desirable in the cases of phthisis. The letter continued: "I beg, therefore, to invite you to co-operate with me in notifying cases of phthisis occurring in your practice, where in your opinion public good can be achieved by such notification. . . . There will, I need hardly say, be no official interference as the result of the notification with your patient, either at home or in connection with his occupation."

In 1902 the question of the treatment of the cases notified was considered by the Town Council. It was decided to send and to keep at the expense of the Town Council four patients at a

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[1] Reprinted from 'Tuberculosis,' the Journal of the National Association for the Prevention of Consumption.

Precautions:

(1) Card (2) Handkerchiefs

(3) Pocket Spittoon

(4) Habits as to Spitting

(5) Other Occupants of same Bedroom

(6) House

Habits as to Food and Drink

Further Remarks

Likely Sources of Infection:

(1) Same House (4) Neighbour

(2) Companion (5) Workmates

(3) Public Houses (6) Others

Condition of Dwelling-house as to:

No. of available Dwelling Rooms

Overcrowding

Cleanliness
- of Walls
- of Ceilings
- of Floors
- of Bedding, etc.

Dampness

Ventilation

Lighting, especially of Staircase

Size of Yard

Any Sanitary Defects

(*a*) Duration of each Case

(*b*) Latest Exposure to Infection before reputed Date of Onset

(*c*) Duration of Exposure, etc.

(*d*) Previous Exposures

Form B.

PRECAUTIONS FOR CONSUMPTIVE PERSONS.

Consumption is, to a limited extent, an infectious disease. It is spread chiefly by inhaling the expectoration (spit) of patients which has been allowed to become dry and float about the room as dust, or by directly inhaling the spray which may be produced when a patient coughs.

Do not spit except into receptacles, the contents of which are to be destroyed before they become dry. If this simple precaution is taken, there is practically no danger of infection. The breath of consumptive persons is free from infection, except when coughing.

The following detailed rules will be found useful, both to the consumptive and to his friends :

1. Expectoration indoors should be received into small paper bags and burnt immediately; or into a receptacle which is emptied down the drain daily, and then washed with boiling water.

2. Expectoration out of doors should be received into a suitable bottle, to be afterwards washed out with boiling water. If a paper handkerchief is used, this must at once be placed in a waterproof bag, the contents subsequently burnt, and the bag washed daily.

3. Ordinary handkerchiefs, if ever used for expectoration, should be put into boiling water before they have time to become dry ; or into a solution of a disinfectant, as directed by the doctor.

4. Wet cleansing of rooms, particularly of bedrooms occupied by sick persons, should be substituted for " dusting " and " sweeping."

5. Sunlight and fresh air are the greatest enemies of infection. Every patient should sleep with his bedroom window open top and bottom, a screen being arranged, if necessary, to prevent direct draught.

6. The patient should, whenever practicable, occupy a separate bedroom. Children should never sleep in the same bedroom as the patient.

N.B.—The patient himself is the greatest gainer by the above precautions, as his recovery is retarded and frequently prevented by renewed infection derived from his own expectoration.

7. Persons in good health have little reason to fear the infection of consumption. Over-fatigue, intemperance, bad air, dusty occupations, and dirty rooms favour consumption.

time in some open-air sanatorium for consumption. Four beds were, therefore, engaged in a sanatorium at Bournemouth. The applications for these beds were so numerous that in July, 1902, leave was obtained from the Town Council to admit four consumptive patients experimentally to an empty pavilion at the Isolation Hospital (known locally as the Sanatorium) for one or two months' treatment. The use of these beds was recommended as promising to diminish disease and improve the public health in three ways:

(1) The patient himself would be benefited and enabled to start afresh, with an improved prospect of recovery;

(2) While he was in the sanatorium, his home could be cleansed and purified, his wife and family would have a holiday in the sense of being free from repeated attacks by the infective material causing consumption;

(3) The patient, when sent home, would have been taught to so manage his expectoration that he would no longer be a source of risk to his family and to those with whom he worked.

The result of using four beds at the isolation hospital was so satisfactory that in December, 1902, the medical officer of health made the following recommendations to the Town Council:

(1) That no further patients be sent to the sanatorium at Bournemouth;

(2) That the number of patients admitted to the Borough Sanatorium be increased from four to ten;

(3) That the length of treatment be decided in each case according to circumstances.

These recommendations were adopted by the Council.

Owing to the success attending this particular use of a certain number of the beds in the Borough Isolation Hospital, the medical officer of health advised an extension of the scheme in 1904. Mr. Hedgcock, who died in 1903, left a large sum of money to the Town Council for charitable purposes, and it was resolved that the interest of £20,000 should for ten years be devoted to the maintenance of Brighton consumptives in the sanatorium. This fund enabled the number of beds for the use of consumptives to be increased from ten to twenty-five, including three beds for paying patients, twelve to be maintained by the Hedgcock Bequest, and ten provided directly by the Town Council. This extension came into effect in April, 1906. The Town Council provides the entire accommodation for these twenty-five patients in its isolation hospital.

The directly municipal patients are usually admitted for a month each, and are by preference men and women still able to work, and in connection with whom a month's rest, treatment, and training, can effect the greatest good to the patient and to others in preventing infection, both of fellow workers and of family. No charge is made for the admission of these patients, who are chiefly labourers, artisans, clerks, etc., and their relatives.

The Hedgcock patients belong to the same classes. They must be unable to pay for their own maintenance in the sanatorium. Some of them are very advanced, or even dying cases, for whom continuance at home is undesirable owing to difficulties as to nursing, or because there is a large family and much danger of infection. Hedgcock patients are kept in the sanatorium for several months or for a shorter time, according to individual requirements.

The following table gives the number of cases notified and the number of cases treated in the isolation hospital since voluntary notification was started:

Year.	No of cases notified for first time.	No. of cases re-notified.	Cases treated at Sanatorium.	
			New cases.	Re-admitted.
1899	111	2	—	—
1900	105	4	—	—
1901	153	9	—	—
1902	224	52	25	—
1903	316	82	96	3
1904	363	85	131	6
1905	308	102	130	7
1906	373	119	181	32

The examination of sputum.—From 1898 onwards, the Borough Laboratory has undertaken free of charge the examination of sputum sent by doctors from Brighton patients. The numbers examined yearly are shown in Fig. 2. Although many cases of phthisis are unfortunately not seen by the doctor until a stage has been reached in which the diagnosis can be made without the examination of the sputum, yet we find there are still a large number of cases the notification of which arrives within a few days of finding tubercle bacilli in the sputum. It is obvious, therefore, that the facilities given by the borough for the examination of the sputum form an important factor in aiding notification.

II. Procedure on Receiving Notification of a Case of Phthisis.

The notification certificate, if completely filled up, gives the patient's name, age, and address; it indicates whether the doctor has attended the case as a private practitioner or as a medical officer of a public hospital or dispensary; and states if the patient is recommended for sanatorium treatment. On the reverse side is printed a statement to the effect that a rough indication of the extent of the disease is very useful, and outline diagrams of the front and back of the chest are given.

When a notification is received the details are entered in a ledger and on a stout linen card. A facsimile of the latter is shown on page 88. The patient is then visited. In a majority of the cases this first visit is made by the resident medical officer from the Sanatorium. Some cases are sent straight down to the Town Hall by the doctor notifying, and are there interviewed by the medical officer of health.

At the first visit the endeavour is made to obtain as many particulars about the patient as possible, consistent with the avoidance of worry to the patient or his family.

Referring to Form A it will be noticed that, after obtaining a short history of the present illness, most of the questions are directed towards detecting the source of infection. The successive houses inhabited by the patient during his illness are carefully noted. The occupation, workplaces, wages, and regularity of the patient's work are next ascertained. The age and the health of each member of the family, as well as of any lodgers or other members of the family who live in the same house are noted. The precautions that are already being taken as to the expectoration, and the habits as to food and drink, are ascertained. A stout card giving the chief precautions for consumptive patients (Form B) is left in nearly every case. The patient is recommended to use a spit-bottle and is informed that he can get paper handkerchiefs at the Town Hall free of charge. If there are indications that other members of the family are suffering from incipient phthisis they are strongly urged to see a doctor as soon as possible. In deserving cases letters for the hospitals are given (*v. infra*). Finally, the sanitary condition of the house, especially its condition as to overcrowding, is investigated. If the patient is suitable for Sanatorium treatment (*v.* p. 84), and is willing to come in, a bed is offered. Frequently we find that the doctor has discussed the question with the patient, but has left it an open question to be decided later. The date for the patient's admission to the Sanatorium is also fixed at the first visit to save trouble and further correspondence. Each card (Form A) is carefully kept, and any further information obtained concerning the patient is entered on it. A space is provided for entering the subsequent regular quarterly visits of the inspector, who has special duties in connection with this work. The card, therefore, becomes a complete and concise summary of all that is known about the particular case of notified phthisis to which it refers.

Disinfection of the patient's room.—If the patient comes into the Sanatorium the amount of disinfection that is carried out at the home, in addition to thorough domestic cleansing, varies according to circumstances. The following is an account of the actual work done last year in this connection:

During 1906, 334 consumptive patients moved to the sanatorium or to other houses, and in each case disinfection was carried out. In 231 instances the patient's rooms were sprayed with formalin; in 5 the whole house was sprayed with formalin; in 3 the rooms were fumigated with sulphur by the tenants; in 39 the walls of rooms were stripped and cleansed and ceilings whitewashed; in 47 this was done for the whole house; in 31 the bed-ticks, etc., were washed by the tenants; in 187 the bedding and clothing were disinfected by saturated steam under pressure at the borough disinfecting station; in 6 the bedding and clothing were burnt. In all the above instances the vacated houses and sick-rooms were thoroughly cleansed. In 81 instances nothing more than this was done, except washing the bedding, etc.

Quarterly visits of the inspector.—After a case has once been notified an inspector, who is specially told off for this work, and has great tact in carrying it out, makes periodical visits to the house. These are made on an average once every three months, unless there is some reason to the contrary. At these visits (1) the patient's health is inquired into, and noted on the card already containing particulars of the case. If he is again failing in health he is urged to take the necessary steps either for admission or re-admission to the sanatorium or for treatment by his own doctor, or at the dispensary or hospital. (2) If there are any other persons in the house failing in health and a doctor's attendance cannot be afforded, an out-patient's letter for the Sussex County Hospital is given. By this means many early cases of phthisis are detected. During 1906 thirty-two such letters were given, of which twenty-two were given to persons not previously under treatment. Great care is taken not to give these letters except to those who cannot afford to call in a doctor. In other instances the medical officer of health writes to the family doctor, drawing his attention to members of the family who are failing in health, but have not asked for medical advice. In these ways many cases of phthisis have been discovered much earlier than would otherwise have been possible. (3) The patient's regard for instructions as to coughing and spitting is ascertained. Fresh sputum bottles are offered to poor patients if the one already supplied has been broken. (4) The general cleanliness of the house, and especially of the sick-room, is supervised and kept up to the required standard.

III. Procedure on receiving Information of Deaths from Phthisis.

Since 1892 the procedure, of which the following is a summary, has been adopted. The information is obtained from the weekly death returns, which are received on Monday morning. On that day a letter is sent to the relatives advising them as follows: (1) To strip the paper off the wall after soaking it with water; the paper should afterwards be burnt in the fireplace of the same room; (2) thoroughly to wash the floors, walls, ceilings, and all woodwork (including picture-frames) of the room; (3) to wash all bed- and body-linen and other washable articles in the room, and expose all personal apparel out of doors for several hours in bright sunshine; and that (4) the inspector will call on the following day to arrange for the removal of the bedding for disinfection by steam. On the next day, besides arranging for disinfection, the inspector makes a fairly full inquiry into the history of the case on a card similar to the one used for notified cases (Form A).

These visits and the inquiries made at them, like the visits to notified cases, sometimes lead to the discovery of patients who are neglecting to have medical advice; and if the patient cannot pay a doctor, an out-patient's letter is given for the hospital or dispensaries.

IV. The Method of Using the Hospital Beds.

(1) *Accommodation available.*

The isolation hospital consists of four main pavilions for infectious cases—an administrative block, the borough disinfecting station, a laundry, and a small destructor. Three of the main hospital pavilions were originally used for scarlet fever, diphtheria, and enteric fever, and the fourth for cases needing special isolation.

In the scarlet fever pavilion (two storeys)		68	beds.
,, diphtheria fever pavilion	,,	56	,,
,, enteric ,,	,, .	22	,,
,, isolation	,, .	14	,,
	Total	160	,,

The population of Brighton estimated to the middle of 1907 is 129,023, the proportion of beds to population being about 1 to 800.

When a small number of consumptive patients were first taken into the hospital one of the divisions of the isolation block was used. When the number of consumptives was increased to twenty-five both the enteric and isolation blocks were used for them. Subsequently the diphtheria and consumptive patients were changed over, and the figure below represents the present arrangement.

If severe epidemics of diphtheria and scarlet fever occurred at the same time it might become necessary to alter these arrangements, or even to send home the consumptive patients. It is not anticipated, however, that this necessity will arise, because enteric fever has almost disappeared, and for several years past we have never had more than three or four cases of this disease under treatment at any one time, and these can be treated in one section of the isolation pavilion. The necessity for the accommodation in this pavilion has also diminished, since small rooms were provided in the scarlet fever and diphtheria pavilions, in which isolation of special cases can be carried out.

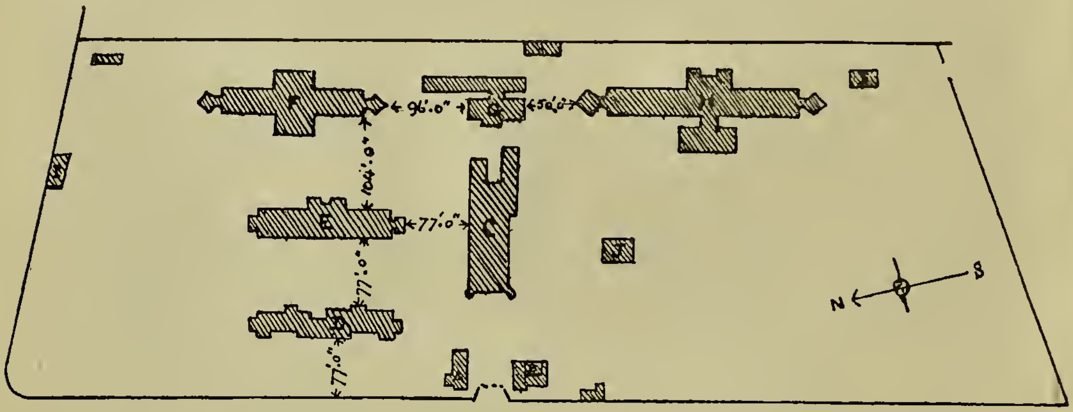


Fig. 1.—Block Plan of Isolation Hospital.

A. Discharge rooms. B. Porter's lodge. C. Administrative building. D. Isolation pavilion. E. Diphtheria pavilion. F. Phthisis pavilion. G. Laundry and disinfecting station. H. Scarlet fever pavilion. I. Mortuary. JJ. Shelters for phthisis patients.

(2) *Isolation of the Consumptive Patients from other Diseases.*

Visitors from other towns frequently ask the question: "Do the phthisical patients run any risk of contracting the infectious diseases treated in the hospital?" The answer is that the possibility of the spread of infection depends on the standard of administration, and that an experience of five years shows a complete absence of such infection. Infection might be spread in any of the following ways: (1) By contact between patients; (2) by the carriage of infection by nurses, or (3) by the doctors; (4) by infection from the laundry or kitchen.

(1) *Contact between patients in different pavilions.*—It being impossible completely to shut off one portion of the grounds from another, the keeping of the prescribed bounds depends upon the supervision by nurses of children and on the honour of patients who have reached years of discretion. Consumptive patients are as desirous not to contract another disease as the doctor is to prevent it, and patients suffering from diphtheria and scarlet fever are under the strictest supervision. In practice, therefore, this difficulty scarcely arises, and the erection of impassable barriers between areas allotted to the different diseases is found to be unnecessary.

(2) *Infection by nurses.*—It is customary in isolation hospitals for the nurses from the various wards for acute infectious diseases to have their meals in a common dining-room in the administrative building. In the experience of the Brighton Isolation Hospital, in which this plan is adopted, infection has never been caused by the adoption of this plan. The experience of other isolation hospitals is, we believe, to the same effect.

The nurses for the consumptive wards use a separate table in the dining-room, and sleep in separate rooms on the first floor of the administrative building. All other nurses dine at another table in the same room. The nurses for diphtheria sleep on the second floor of the administrative building, and those for scarlet fever sleep in the dormitories over the scarlet fever pavilion with a separate means of access. The nurses for different diseases are allowed to go out together, and they occasionally use a common sitting-room.

To enable scarlet fever and diphtheria to be intercommunicated under the above circumstances by the nurses attending these diseases, infection would need to pass through two intermediaries—a highly improbable event. If infection does not spread under these circumstances from scarlet fever to diphtheria or conversely, it is unreasonable to expect that it would spread from either of these to consumptive patients, and our confidence in this anticipation has been justified by events.

(3) *Infection by the doctor.*—The precautions adopted are those which every careful practitioner adopts in his every-day rounds. The consumptive patients are visited first, and overalls are used when going into the other wards.

(4) *Infection from the laundry.*—The washing from the whole hospital is done in one common laundry. Special precautions are taken with the soiled linen from the scarlet fever and

diphtheria pavilions, articles only being sorted after having been in soak for a certain time. A definite routine is maintained, so that when the linen has once been washed no soiled linen is taken into the laundry during the same week. The chances, therefore, of spread of infection in this laundry are less than in an ordinary general laundry, and infection, in fact, has not occurred.

(5) *Infection from the kitchen.*—The food for all the wards is distributed from a central kitchen. Every article to be returned from the various wards is washed first. No food is ever returned.

The above summary of our procedure shows that no risk is involved in the treatment of consumptives in a well-administered hospital, in pavilions properly separated from those for scarlet fever and diphtheria. Experience has justified the advice given as to the *à priori* improbability of such spread, for during the last five years, in which 567 consumptives have been treated for an aggregate period of 2828 weeks, or an average of five weeks for each patient, not a single case of an acute infectious disease has occurred among these patients.

(3) *The Principles on which Beds in the Sanatorium are allocated.*

Not every patient notified to be suffering from phthisis is offered treatment at the sanatorium. Since the average time that the patients can afford to stay is from four to six weeks, the main factor determining the admission of patients to other hospitals and sanatoria, namely, the possibility of permanent benefit or cure, obviously is the factor of least importance in deciding as to the admission of patients to our sanatorium. The benefit to be derived from the short treatment of patients has been summarised on page 77. From the public standpoint it may be summed up in the word *education* or *training*—(*a*) the patient is taught that he is in part responsible for his own cure, and he is shown the best way of living with this end in view; (*b*) he is trained so to manage his cough and expectoration that he is no longer a source of infection to others. These being the chief objects at present attempted, each of the following circumstances is taken into account in considering the suitability of cases for admission:

(1) *The age of the patient.*—People at the working years of life are those who can derive the greatest benefit from the sanatorium treatment and training. Children, whose home circumstances are in the hands of others, obviously cannot carry out a given line of treatment of their own accord. Furthermore, children are seldom sources of infection to others, owing to the absence

of expectoration. Old people suffering from phthisis frequently drift to the workhouse infirmary, and every effort is made to facilitate their admission to this institution, though in the event of their not coming within the legal limits of the Poor Law they are admitted to the sanatorium if they are likely sources of infection.

(2) *The size of the family.*—If a family consists of a mother and father and several children, and one of the parents has been notified, every inducement is offered to get the patient into the sanatorium. If, at the same time, the cases of a parent and one of the children have been notified, an endeavour is made to get them into the sanatorium together. On several occasions two or more members of the same family have been treated at the same time. If the family consists only of a married man and his wife, past middle age, and one of them is notified, there is less necessity to urge sanatorium treatment than if other and younger people are living with them.

(3) *The occupation.*—This is an important factor. Preference is always given to consumptives working in factories or workshops with a large number of other men or women.

(4) *The stage of the disease.*—As mentioned above this factor by itself is of minor importance in determining the suitability of notified cases for admission. It is of extreme urgency to educate the young adult, especially if he is a bread-winner and a parent, both from the standpoint of cure and of prevention of infection. Patients with advanced disease are admitted as readily as patients having earlier disease, the one condition of admission being that the possibilities of infection can be reduced by the training of the patient.

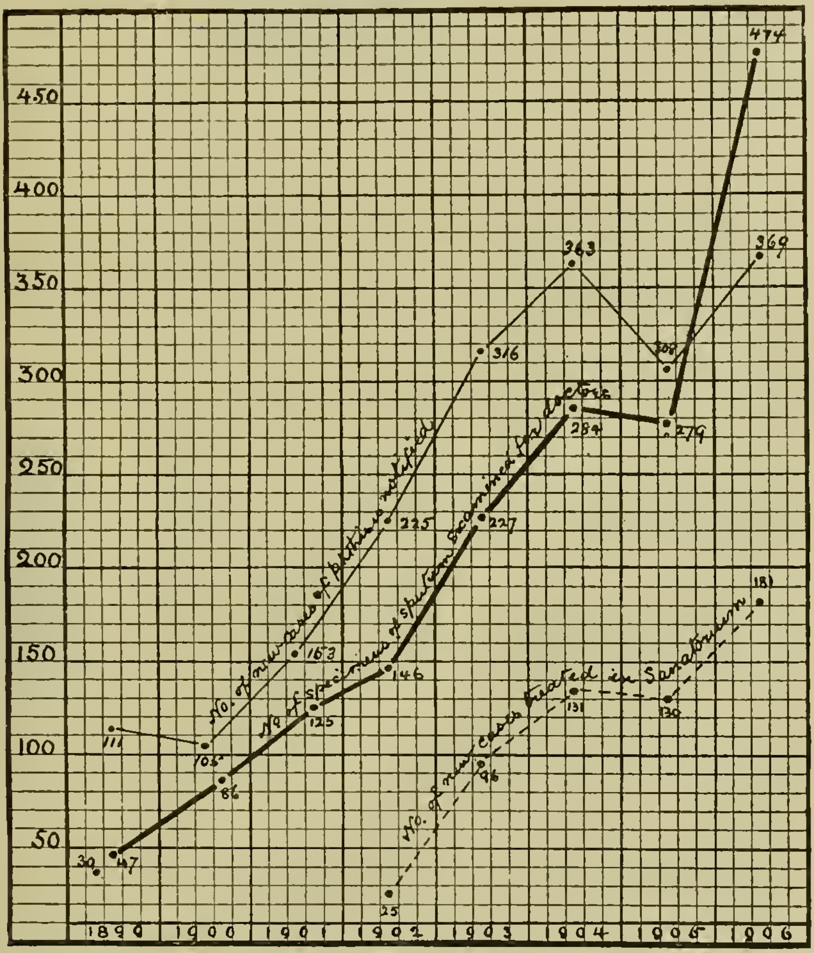
(5) *The social position of the patient.*—Under our present system of voluntary notification information is rarely received of cases where the family has an income of more than £2 a week. Yet, although there is a great difference between the positions of a family with an income of 35*s.* and one with an income of 25*s.*, the need of the sanatorium treatment is almost as urgent for the one class as for the other, and no social distinction is therefore drawn in admitting patients. The only partial exception to this rule is in regard to patients who come within the purview of the Poor Law. If these patients are possibly curable they are admitted to the sanatorium. If their disease is advanced they are urged to go into the Workhouse Infirmary. The arrangements in the thirty beds of this institution reserved for phthisis are very good, and patients who would otherwise be a source of serious domestic infection are admirably segregated in these beds.

It will thus be seen that the suitability of a patient for admission to the sanatorium depends on the answer to the following questions: (1) "Will the treatment begun at the sanatorium, if subsequently continued, give a reasonable chance of a cure?" (2) "Even if there is no reasonable chance of a cure, will the treatment and training diminish and possibly prevent the spread of infection to others when the patient leaves the sanatorium?"

V. BEARING OF SANATORIUM ACCOMMODATION ON THE EFFICIENCY OF TOTAL MEASURES AGAINST PHTHISIS.

Fig. 2 shows the close relationship between the curve of total cases notified and that of cases treated in the sanatorium, and how greatly the number of specimens of sputum examined has similarly increased in recent years. It will be seen that close on 50 per cent. of our total cases notified during 1906 have passed through the sanatorium. Our local experience is that the objections of patients and their friends to notification have been removed by the provision of sanatorium accommodation. So far from the patients objecting to notification, a not infrequent difficulty has been that they persist in applying for sanatorium treatment, apart from the advice and certificate of a private doctor, upon which we always insist. The importance of sanatorium accommodation is further indicated by the fact that our notifications of phthisis in proportion to population or to deaths from phthisis are greater than in any town in England in which the notification of phthisis is voluntarily in operation or is compulsorily enforced. It is, of course, much easier to get into individual touch with medical practitioners and with patients in a small than in a large town; but even when allowance is made for this it appears clear that voluntary notification, with efficient means of helping the patients and with sufficient sanatorium accommodation, is more successful than either compulsory or voluntary notification, when these conditions cannot as yet be fulfilled. This is not a valid argument against compulsory notification, which enables those doctors to notify who at present feel precluded from doing so, either because their patients will not consent or for other reasons. It is, however, an argument in favour of restricting the operation of compulsory notification to those towns which, in association with such notification, will be able to furnish efficient help to the notified patients. The interests of the patients and of the public are identical in this matter. By the giving of instructions, the provision of spit-bottles, etc., and by the sanatorium training and treatment of the patient, the public and the patient benefit to an almost equal extent, and it is undesirable in the case of a chronic disease like phthisis to attempt to secure the public good by compulsory notification without benefiting the patient in the way in which he can be benefited by sanatorium training and treatment. Our local experience, furthermore, is that most

Fig. 2.



commonly the one end cannot completely be secured without the other. The patient most often does not change his habits in regard to spitting as the result of a quarter of an hour's visit, though he does so after realising the benefits of sanatorium treatment and after having had a month's experience in the simple precautions which are necessary for the welfare of the community.

APPENDICES.

Form A.

NOTIFICATION OF PHTHISIS.

Reg. No. ______ Sanatorium No. ______

Name ______ Age ______

Address ______

Date of Notification ______ Doctor ______

Recommended for Sanatorium by ______

Notes by Doctor ______

Date of Admission to ______

Date of Discharge from ______

Date of Change of Address ______

New Address ______

Dates of Visit ______

Duration and History of Illness ______

Places of Residence during Illness ______

Occupation and Workplaces during last 5 Years ______

(*a*) Wages ______ (*b*) Work regular ______

No. and Ages in same Family.	No. in 2nd Family.	History of Cough or Consumption among these.

Family History ______